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THE FINANCIAL POST

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The Nation's Business

Mr. Coldwell Shows the CCF Hand.

M. J. Coldwell, national leader of the C.C.F., tells more about the plans of his party for Canada in an article in Maclean's Magazine, Sept. 1, than has been revealed since the party manifesto of 1933 was issued.

Maclean's Magazine is to be commended for getting the C.C.F. leader to set forth his aims and policies so clearly and Mr. Coldwell has performed an important public service in answering the questions put to him.

In replying to the 33 questions asked, Mr. Coldwell shows the position of the C.C.F. in relation to the system of free individual choice and to the system of Communism. Mr. Coldwell avows opposition to dictatorship. But it is plain, nevertheless, that what the C.C.F. proposes is a regimented social life and a bureaucracy-ridden economic life; a system, in other words, that could only operate "efficiently" under a dictatorship of the Fascist or Communist order.

Mr. Coldwell refers to his "grave misgivings" about political dictatorship elsewhere. Realistic Canadians will have equally "grave misgivings" regarding the dictatorship in which Mr. Coldwell's schemes must inevitably result.

The dominant theme of Mr. Coldwell's complaint about the present system is that it is riddled with "monopoly" and his recurrent use of the term shows that in the term "monopoly" he includes most business.

He speaks of "the obstacles placed in the way of a full war effort by . . . the pressure of monopoly capital."

This is an extremely grave charge. What is his evidence? Mr. Coldwell doesn't give a single word of evidence to support his sweeping claim that business has sabotaged the war effort.

THE FACTS ARE OPEN TO ALL

This claim, of course, is nonsense. The facts are clear and unchallengeable for anyone who does or is willing to look at them. Without the strong foundations built by individual Canadian enterprise, Canada wouldn't have had any industrial war effort. Canadians hear much about the Crown-owned-and-financed war plants, but great as they are, they represent less than one tenth of the industrial productive capacity of this country, and they are very largely dependent on the business structure created by private citizens. The productive skills, the managerial resources, the enormous tax contributions of private enterprise have made our proud war effort possible.

Business was striving to prepare for the war when the C.C.F. and Mr. Coldwell were preaching first, unpreparedness, later, a limited, partial war effort.

Mr. Coldwell goes on to charge that "monopoly control deliberately sets Canadian against Canadian." How? When? Where? Who are these "monopoly controllers"?

The deliberate setting of Canadians against Canadians has been done by the C.C.F. They are the people who have fostered the idea of the class struggle; who have pushed the completely fallacious idea that the interests of different groups in society are opposed and that the businessman's prosperity depends on the poverty of others. The C.C.F. are the people who have tried to play city against farm interests, promising the farmer higher prices at the expense of the city man; the city man higher wages at the expense of the farmer.

Mr. Coldwell makes another charge that requires backing with substantial evidence. He says that "time and again, necessary assistance to unemployed workers and drought-stricken farmers was refused on the plea that the interest charges were a more sacred obligation than the duty to the people." Not once, but "time and again." Let us have names, dates, places. Can Mr. Coldwell quote one example?

PROFITS KEY TO PUBLIC SERVICE

The C.C.F. has long been developing skill in the use of bogeyman words; in clever distortions of phrase. Says the C.C.F. leader: his group seeks "the elimination of the profit motive as the sole motive in industry." He says that now the decision as to what to produce, what activity to follow "is made solely on the basis of which course will be most profitable financially."

The truth, of course, is that nowhere in modern business is the profit motive the "sole" motivating force in business decisions. But the profit motive has been one of the main factors in giving the lowliest worker a standard of living incomparably higher than that of his grandfather. Mr. Coldwell suggests that where the profit motive exists, the public interest takes second place. He is patently wrong because it is only in serving public demand at reasonable prices that there are profits.

Profits are the means by which capital is formed, and capital is the essential prerequisite of employment.

Profits are a gauge of efficiency in serving the community. "Service-at-cost" is an abuse if the cost is twice what it should be because there is no harsh competitive pressure and profit motive to do the job better, to eliminate waste, to bring cost down.

Profits are the inexorable force that forces business to serve the public interest; to give the public what it wants. Under Mr. Coldwell's plan, a board of bureaucrats would tell the public what it was to get and at what price. These bureaucrats would inevitably be trying to make us ride in horse-carriages long after the test of profit would have shown that we wanted to ride in automobiles.

Mr. Coldwell wants goods produced, services rendered and the Dominion's work done by "boards and supervising agencies." Export and import boards, for instance, would have the function of arranging and extending our external trade "in accordance with the national needs." Well, of course, that is precisely the foreign trade method of Communist Russia and Nazi Germany. The rest of the world didn't want it. The McFarland Wheat Board tried it once in Canada, but the world did not care to buy Canadian wheat on the terms dictated by Canada's "national needs."

ALL HISTORY DISPROVES DREAM

What Mr. Coldwell is saying is that bureaucrats should tell the Canadian people what they are to produce and what they are to consume; that bureaucrats can do a better production and marketing job than competing businessmen; that the hopes of politicians and theorists can always be achieved against the wishes of the consuming public.

All history stands against Mr. Coldwell's naive dream. And recent history abundantly proves that bureaucracy and state denomination of the life of the citizen leads only to the "political dictatorship" which Mr. Coldwell professes to abhor and which, we believe, he honestly does abhor.

There is much in Mr. Coldwell's plans for the C.C.F. to which every good citizen can subscribe: his plans for a better educational system; for improvement of social services; for research; for retraining of returned fighting men; for a world organization to prevent war; for changes in the distribution of political authority in Canada to enable our governments better to meet modern needs.

In these things, Mr. Coldwell merely borrows from Liberals and Progressive-Conservatives. He offers here no original policies; no new policies. And in that part of his program that is new, he offers nothing that justifies giving him and the C.C.F. power to destroy personal freedom in Canada; to take us on a ride to disaster in pursuit of a dream.

May Resume Distilling Of Liquor

War and Industrial Uses Over Supplied — Smaller Consumer Ration Deemed Likely

Canadian distilleries have been turning out so much alcohol for industrial and war purposes since whisky distilling ended that activities may have to be curtailed due to lack of storage space, The Financial Post is informed.

This situation, it is suggested, may prompt a demand in Canada for a partial return to whisky distilling, a demand similar to that made to Donald Nelson, U. S. War Production Board head. Due to a big normal export trade whisky distilling is relatively much more important in Canada than in the United States.

Watch U. S. Action

Ottawa authorities are understood to be watching closely the proposal made in the United States and action here, it is believed, will be dependent on official moves there. Ottawa is stated to be taking the attitude that it would not be appropriate for Canada to be using distilleries for beverage purposes while U. S. competitors are still concentrating on industrial alcohol for war purposes.

Renewed production of alcohol in Canada may be desirable from a postwar standpoint, it is said. The turning out of a limited quantity of whisky now might make unnecessary the introduction of immature liquor after the war, it is stated.

Lower Rations Coming?

As for war consumption, Canadians generally may soon be faced with lower rations, except in British Columbia and Alberta where 13 oz. a month applies. In those provinces, in fact, a slightly higher quota is possible. But the Ontario ration is not likely to stay long at 53 oz., it is believed, while that of Quebec, two 40-oz. bottles a month if available, may also be revised. Other provinces have a quota of two 26-oz. bottles a month.

How soon and how far hard liquor rations may have to be cut in some provinces depends in large part on what supplies of unbonded liquor had been laid in by the various liquor commissions before the federal clamp-down last December. The amount distributed has apparently been based on 70% of the 1942 provincial gallonage — plus whatever can be spared from stocks not affected by the Dominion order. The extra amount over and above the 70% is being rapidly used up and there is no new supply to replenish it.

Hopes of British Columbia and Alberta for a larger liquor quota are stated to be based on the argument that a big influx of population has resulted in the extremely low liquor ration in these provinces. No decision on the case of these provinces was reached at a conference of provincial liquor commissioners with David Sim at Montreal last week, however.

—Photo by Karsh.

SIGNALS DIRECTOR

Youthful Hartley Zimmerman did such an excellent job as director-general of small arms production in the Department of Munitions and Supply that he was asked a short time ago to take on a new and tougher job — director-general of the Signals Branch. He is now responsible for production of secret and top-priority communications equipment costing $250 millions a year. The Signals Branch of M. and S. guards some of the most exciting, formidable and intricate production processes in the entire United Nations armory. One of them is, of course, the highly hush-hush radar (radio detection). Mr. Zimmerman was born in Hamilton, graduated in engineering from University of Toronto in 1924, after going through RMC at Kingston. In 1930 he joined the research division of Moore Corp. Ltd., at the company's Niagara Falls, N.Y. branch. Later he was made assistant director of research for the company. He joined M. & S. in Aug., 1941, in charge of the small arms production branch.

Hearst Seeks Liquidation Old Debt

Two Proposals Put Up to Canadian Newsprint Firms Holding $8.5 Millions in Notes

From Our Own Correspondent

MONTREAL. — Representations are now being made to settle the $8.5 millions newsprint debt of the William Randolph Hearst newspapers and which has been carried by Canadian newsprint operators for over five years.

Those companies holding Hearst notes, at least 10 of them, are being approached individually to see if they will accept either one of two offers.

1. Acceptance of 10-year 3¼% notes; or

2. Acceptance of a cash payment of 50c. on the dollar and a long-term newsprint contract.

Not all of the Canadian newsprint manufacturers make public their balance sheets. However, at least ten of them are known to be holding the notes which the Hearst papers gave them at a time when they were unable to pay cash for newsprint delivered.

Anglo-Canadian Pulp and Paper Mills, a Rothermere enterprise, is understood to be one of the largest noteholders.

Next on the list is Abitibi, followed by Consolidated Paper, Canadian International Paper and Lake St. John Power & Paper in the order named.

Each of these operators holds a minimum of $1 million of Hearst notes.

Those holding less include Price Bros & Co., Donnacona, St. Lawrence Paper Mills and Brompton. Their average holdings run somewhat less than half a million.

The aggregate debt to these com-

(Continued on page 2, col. 3)

Vital Nickel Output Forced Down 10%

Manpower Scarcity Hits Production at International Nickel Plant — Overall Base Metal Shortage 3,600 Men and Growing Worse

By KENNETH R. WILSON

OTTAWA.—International Nickel Co. has been forced to cut production by 10% because of the lack of manpower, The Financial Post is informed.

The cut in production of one of the most strategic of all war metals was made effective around the first of July. Actually production is now falling even below the lowered objective because of manpower shortage.

Matte production of nickel is now down by about 2.5 million pounds per month, while matte copper production at the Nickel property is reduced by about a million pounds a month.

Employment at this biggest of all Canadian base metal producers averaged something over 12,400 men in the first quarter of 1943. Currently, employment is said to be 5% below that figure, with the loss affecting especially the underground personnel. The company is said to be short some 1,400 men at the present time.

Copper Shipments Down 40%

Copper is another key war metal which is feeling the cumulative effect of manpower shortage.

The Post is informed on reliable authority that Canadian shipments of copper concentrates to the United States are now only 60% of what they were a year ago because of manpower shortage.

The situation in British Columbia is so alarming that representations have been made to Prime Minister King to declare the industry in a state of national emergency as has been done in the case of coal mines. Britannia Mining & Smelting is working at only about 50% of capacity for lack of manpower.

Sherritt Gordon is down a third from its possible peak. Other mines are maintaining production at better levels, but many are drawing on stockpile or diverting manpower to production at the expense of development work.

Short 3,600 Men

Throughout the entire base metals industry the current shortage of skilled miners is now placed at about 3,600 men. This compares with a peak shortage of about 3,000 men during the previous critical period, last October. Every week is said to bring increasingly pessimistic reports with little prospect of relief unless some concessions are granted to release men now in the home defense army or there is some strengthening of enforcement of National Selective Service regulations.

It is reported here that no attempt has been made by National Selective Service to prosecute men who have broken the regulations and have, without permission, left an industry where manpower is supposed to be "frozen."

Employment in base metal mines in Canada is said to have dropped to about 27,000. This was in June, the last month for which figures are available. This compares with an average of 28,500 employed during the first quarter of 1943. August figures when available are expected to be even lower than the June total.

It is admitted that these figures look superficially satisfactory when compared with corresponding totals for the second quarter of 1942. (Employment in all Canadian base metal mines is now about 1,500 higher than at this time last year.)

Threat to New Program

What is considered alarming is the comparison of present manpower figures alongside the greatly enlarged production program which is now necessary if Canada is to meet her promised goals. That this goal is not being reached is indicated by what has happened in re-

(Continued on page 2, col. 1)

No Hope Held For More Gas

From Our Own Correspondent

OTTAWA.—There is no indication whatsoever that there will be any increase in gasoline supplies for Canadian motorists at the present time, The Financial Post is informed by high ranking officials. They point out that the shipping situation is still very tight, and that big demands in shipping are anticipated in months to come. While there has been an easing in the gasoline situation in the United States, and more crude oil is available in South America, it is pointed out that Canadian motorists have already received relatively kind treatment, and there is no justification whatsoever for expecting an increase in supply.

Gold Mines Face Crisis

Growing Labor Shortage May Force General Shutdown of Industry

The next six months to a year is likely to be the most critical testing period in the history of Canadian gold mining due to an acute labor shortage, mining executives inform The Financial Post.

With labor supply at many mines down to a point where further loss of even a small number of men would constitute a challenging problem, the fact that men are still likely to be called up in considerable numbers through the married man draft is being viewed with extreme concern.

Replacements Unsatisfactory

Men called for military service are usually the most efficient available, and the very young and very old men sometimes available as replacements are unable to meet the gold mines' requirements. The gold mines have been striving to meet their manpower problem by practically eliminating ordinary development and maintenance. But despite the extreme efforts made, a rich, well-developed mine like Hollinger is unable to treat more than 2,500 tons or half its normal rate.

Mines which have been able to hold their output relatively well usually have been able to fall back on a supply of broken ore and it appears only a matter of time until they too will be hit.

B. C. Hardest Hit

Many gold mines could be cited in eastern Canada which are suffering drastically from "labor pains" due to the manpower shortage, but British Columbia probably provides best evidence of how short labor for gold mines is actually becoming.

Here are some of the results of the B. C. gold mining labor crisis:

Zeballos, Vancouver Island gold camp, will soon be entirely idle, with Privateer, the last producer, closing down next month due to labor shortage. All eight of Vancouver's gold producers will be on the shutdown list when Privateer stops.

Sheep Creek, last of three producers in the Sheep Creek camp, has so few men left that it is necessary to close the mill every few weeks until sufficient ore is accumulated to run it.

Hedley Mascot Gold Mines, Hedley district producer, will probably only use a development crew after October.

Cariboo Gold Quartz Mining Co., chief Cariboo district producer, has been forced to curtail production to the "below profit" point. Only the desire to hold the operation together and to maintain the mine in shape has been behind continued production on the present reduced basis, it appears.

Reports from the mining country are to the effect that, if anything, National Selective Service is clamping down still further on people available for gold mining. With manpower demands for direct war industry showing no signs of easing as yet, the gold mines can expect no easing of the labor situation, it appears.

Elson from Washington

Big Decisions at Quebec

By ROBERT T. ELSON

- Five Significant Moves Charted by Anglo-American High Command
- Pacific Plans to Keep Canadian War Factories at Peak Levels For at Least a Year
- Formation New Canadian - American Joint War Aid Committee

For all the thousands of words that poured from Quebec during a momentous ten days, the essential facts of the "greatest military conference ever held" — to quote the official statement — can be summed up in a very few paragraphs.

First, the Anglo-American high command obviously have completed planning necessary to take the offensive in the Pacific. Common sense calls for caution against expecting too much too soon in that sector of the global war where distances are greatest.

Second, strenuous efforts are bound to be made in the next few months to try and bring the Soviet Union into a closer working partnership such as now exists between Britain and the U. S. But at the same time Mr. Churchill and Mr. Roosevelt made it plain in their formal statement that the onus for improving working relations now rests with Russia. They will welcome a full tri-partite meeting with the Russians. What about it, Mr. Stalin?

Third, the unanimity achieved in the strategy rests upon a global basis and, in spite of what our Soviet ally may say, it will continue to rest on this foundation. In other words, we will determine the emphasis and priority of our effort on the basis of our commitments in both the Pacific and the Atlantic theatres, reserving the right to alter this as the situation demands.

Fourth, the political discussions conducted there seem to have been fundamentally concerned with the future handling of liberated areas in Europe. A British spokesman officially made it clear that the operations of Amgot, the combined American-British military government, suitable for Italy and Sicily would have to be modified if and when our forces enter those countries whose legitimate governments are now recognized. Here again our military diplomacy is following an independent line, in spite of disapproval from emigré sources and left-wingers who criticize the present course of Anglo-American policy.

Fifth, as a result of the discussions at Quebec there will come some

(Continued on page 2, col. 2)

Investing For Tomorrow Article No. 8

Appraising Newsprint's Future

Canada's Major Export Industry and Most Popular Investment

By JOHN E. LANGDON

Canada has nearly one half of the world's newsprint capacity. It produces three times as much as any other country and accounts for over two thirds of total world exports. Today it is the principal and, in many cases, the only source of newsprint paper for the free press of the United Nations and those nations outside the orbit of the Axis powers.

Nearly $400 millions have been invested in the newsprint industry. It is by far the most important division of pulp and paper, which in turn is the largest manufacturing industry in Canada.

As an export, newsprint tops all manufactured products produced in the Dominion. It is of greater value than wheat. It brings more foreign exchange into the country than any other commodity, excepting gold bullion.

Vital to the Canadian economy, newsprint from an investment point of view has had a highly checkered and not overly successful career. Running through the history of the industry is a record of lush years; great expansion; depressions; bankruptcies; reorganizations; uncontrolled competition; unsatisfactory customer relations; high finance; widely fluctuating earnings.

Securities Widely Held

In the face of this erratic record, investment interest in newsprint securities among Canadians is more widespread than for any other group of securities. This faith has been and is predicated upon certain basic factors.

Newsprint manufacture in this country dates from the end of the last century. It grew slowly, but steadily, until 1913, when the United States removed the tariff on newsprint paper imports.

At the beginning of 1924 Canada's newsprint industry had an installed capacity of 4,600 tons daily. Two years later it had grown to 6,818 tons. By the end of 1928, capacity was 9,897 tons.

Considerable work was in progress when the 1929 boom collapsed, but by the close of 1930 capacity had grown to 11,940 tons daily. Not until 1931 was the building program complete. By then Canada had an industry capable of turning out 12,376 tons daily. Since then, through refinements, improvements and the establishment of two new mills, capacity has stabilized at 14,000 tons daily.

Industry expansion from 1924 to 1931 was far greater than the market warranted. The new machine installations were financed on the basis of capacity or near capacity operations and with paper selling at $65 to $70 a ton. This created a basically unsound structure. Trouble was to be expected. It came quickly enough. By the early 30's, half of the industry was in financial difficulties.

Collapse of Industry

First of the major operators to go under was Canada Power & Paper (now Consolidated Paper Corp.). Others followed in quick succession. Abitibi is still in receivership. Price Bros. & Co. went bankrupt and was reorganized. Lake St. John Power & Paper "went through the mill." Anglo-Canadian Pulp & Paper Mills made a financial adjustment with its shareholders. Mersey Paper effected a sawoff with its shareholders. Minnesota & Ontario Paper only recently has been released from receivership. Donnacona Paper and Great Lakes did not escape the debacle.

Presents New Picture

What has gone before should not unduly influence investment judgment on the future of the industry. Nor should it be dismissed as of no importance. The type of management-mind which contributed to the chaotic conditions in the industry between 1925-1932 has not been entirely eliminated from the industry.

Out of troubles always comes some good. Bankruptcies and reorganizations squeezed the "water" out of the industry's financial setup. Hard times brought economies and greater operating efficiency.

Over the last 10 years the industry has done a great deal of fence-mending. Working capital has been restored, due, in part, to the fact that for several years many of the companies did not pay fixed charges. Today operators are in a stronger financial position than ever before.

To take but a few examples:

Consolidated Paper's net working capital increased from a deficit

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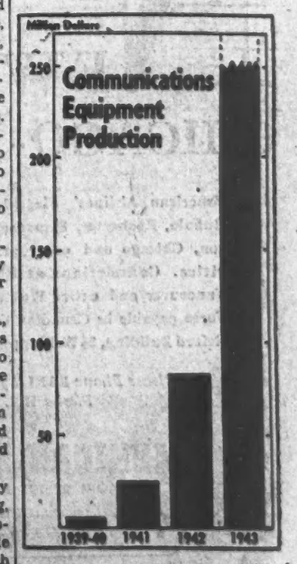
Pace of Business



Canada's production record, communications equipment: 1939-1940, $3 millions; 1941, $12.6 millions; 1942, $81 millions; 1943, (est.) $250-$300 millions.

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Income Tax Defaulters Get Break

By STAFF WRITER

OTTAWA.—Though income tax officials hope to bring in a few stragglers between Aug. 20 and Aug. 31, chief virtue of the unprecedented extension of the date for filing individual returns seems to be to give "a break" to the thousands of taxpayers who failed to meet the original tax deadline last June 30.

Tax officials here have no official record of how many eligible taxpayers failed to make the June 30 deadline. They estimate there were probably about 40,000. Neutral observers say the figure is low. When an official check of tax returns was made as at July 31 (a month after the due date for filing) it was found that about 2,000,000 taxpayers had filed their forms of which 400,000 were non-assessable and 1,700,000 were assessable and liable for tax.

Never Before

Never before in federal income tax history has a due date for the filing of returns been extended once that date has passed. Officials warn that the present extension must not be considered in any way as a precedent for leniency in the future. By 1944 it is hoped to have simplified tax returns and regularized the filing of returns to an extent that will make the final date for filing returns as inviolable once more as the proverbial laws of the Medes and Persians.

Officials also point out that it is very much to the interest of persons who have not already filed a return to do so prior to Aug. 31. Many, if not the majority of those who have not already filed returns, are thought to be persons who will be eligible for a postwar refund. By not filing a return these persons will lose their right to this refund.

There is no great optimism here that there will be any great deluge of late returns at this late date without further pressure and promotional build-up.

Little Basic Difference McTague-Cohen Reports

Feel J. L. Cohen Making Issue Regarding McTague Findings on Wage Question in Order to Appear as Labor Champion

By STAFF WRITER

OTTAWA. — Informed observers here feel that the sit-down strike of J. L. Cohen, K.C., is little more than an attempt to make political capital out of his position on the National War Labor Board.

Those who have studied the McTague majority report, and the minority report submitted by Mr. Cohen, aver that the two reports are very similar in their basic conclusions and that differences between the two are largely in matters of detail. Apparently there was very little difference of view as between Justice McTague and his associate, Leon Lalande, on the one hand, and Mr. Cohen, on the other, as to how best Canada should move toward a solution of its vexed wartime labor problems.

It is felt, therefore, that Mr. Cohen has gone far out of his way to "make an issue" and pretend that he alone is standing up as the champion of labor rights.

Department Studies Report

How soon the McTague findings will be made public is not yet clear. Hon. Humphrey Mitchell left Ottawa for a week's holiday the day the report was handed to him. Mr. King has been far too busy with international goings-on to pay much attention to even this vital domestic problem. Meanwhile the report is being given very close study within the department itself.

There is no question that the report makes recommendations for a new and vigorous approach to labor and wage questions in Canada and that its findings constitute a direct challenge to the government's 1941 wage-price stabilization policy. What remains to be seen is the extent to which the viewpoint of the fiscal experts will weigh against the view of the McTague findings. It is expected that the report's recommendations in respect of wages will be challenged by Mr. Ilsley in Cabinet, but the view of most other members of the Cabinet (including the Prime Minister) are expected to lean strongly toward the McTague arguments.

New Labor Policy?

In light of the recent election results and the tremendous pressure that is being brought on the government by labor groups—the most recent and perhaps the most powerful being the railway representations—it is thought that the government is ripe for some spectacular new labor policy such as might be touched off by the McTague report—a policy whose ultimate effect on inflationary forces can be at best only a matter of judgment between various expert groups.

Since 1941 a certain rigid philosophy in respect of wage-price stabilization has prevailed at Ottawa. The first major open break (in so far as government policy was concerned) came with the government's own breach of the wage-price policy in the steel decision last January.

The McTague findings are thought to mark the close of this phase of inflation control in Canada and the opening of a new chapter.

Unlisted Stocks Quiet Show Mixed Trend

Unlisted stocks were quiet with a mixed trend, according to Plaxton, McDonnell & Co.

Andian National advanced 1½ points closing 23½-27½. B. C. Pulp & Paper pref. lost several points at 68-72; the common dropped ½ at 10½-12. Brown Co. pref. dropped two points closing 33-36.

Canadian Industries "B" firmed one point at 163-165. Federal Grain $6.50 pref. lost three points at 81-84, ex-dividend; the common eased fractionally at $4.00-$4.50. Great Lakes Power $7 pref. firmed one point at 107½-110. Hayes Steel Products advanced ½ closing 16½-17½. Morrison Brass units dropped two points at 14-16.

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East. Dairies Defer Meeting

From Our Own Correspondent

MONTREAL. — Meeting of the holders of the 6% 20-year first mortgage bonds of Eastern Dairies Ltd., called to consider a plan of reorganization, has been adjourned until Sept. 28.

In order to secure a quorum 51% of the total of the $2,479,500 face value of bonds outstanding had to be represented at the meeting. Inasmuch as the representation was only 22%, or $556,500, the meeting had to be adjourned until next month.

The plan provides for the consolidation of the assets of Eastern Dairies Ltd. and three subsidiaries, Elmhurst Dairy of Montreal, Acme Farmers of Toronto and Producers of Ottawa, into a new company, Dominion Dairies Ltd.

Ontario Cancels Pulp Contracts

Drew Takes First Step Toward Placing Forests Under Commission

Fulfilling an election campaign promise, the Drew government of Ontario is cancelling contracts made in 1937 by the previous regime under which companies have held millions of acres of timber stands in the Lake Superior region. Premier George A. Drew calls the move the first step in placing the whole administration of forest resources under a Forest Resources Commission.

The area involved in this Drew action is equivalent to one third the total available commercial timber areas of Norway, The Financial Post is informed.

At least seven companies covering just under 14 million acres are affected.

Three of the companies, namely Pulpwood Supply Co., Toronto; General Timber Co., Port Arthur, and Soo Pulp Products Ltd., Sault Ste. Marie, have been conducting cutting operations. Those which are cutting are expected to be permitted rights over such areas as their actual operations demand.

Rights of four of the seven companies will lapse completely, it has been stated. These, said to have conducted no operations at all on the lands in question, are Huron Forest Products Ltd., Vermillion Lake Pulp Co., English River Pulp & Paper Ltd., Toronto, and Western Pulp & Paper Co.

Failure to erect pulp mills on the properties is cited as chief item in non-fulfilment of the 1937 agreements and the government claims also that each contract "was made secretly, without competitive bid or public notice of any kind, contrary to law and proper practice."

The government, it is reported, plans to enquire into another 1937 contract, that given to Lake Sulphide Pulp Co. This company did proceed to build but went into bankruptcy before completion of its mill and Brompton Pulp & Paper Co. took it over in March, 1942.

BUILDERS WHO SEND *Ships* DOWN TO THE SEA

Canadian shipbuilders pay their tribute to the loyal heroism of those who sail our navy and merchant marine by a magnificent response to the cry, "Give us more ships!" The Bank of Montreal, through its branches in shipbuilding centres, gives helpful banking service to employers and workers in this, as in every war industry.

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Vital Nickel Down 10%

(Continued from page 1)

cent weeks at Nickel and what is happening to our copper production and exports.

It is also of importance that in the last 12 months a number of new producers have come into production (for example the Dominion Magnesium property near Renfrew) which now employ a considerably larger number of men than at this time last year. For the most part these new developments have been fairly successful in obtaining manpower to meet their needs. It is the old and better established properties where the brunt of the manpower difficulties are felt—especially in British Columbia where proximity to higher-paid shipyard workers has consistently been a source of grief to lower-paid and less glamorous mineworkers.

In spite of the recent representations which have been made to Ottawa by British Columbia as to declaring the base metal mines in a state of national emergency, that plan is not considered here as offering the most hope for a solution. To take this step, it is argued, would be to invite similar action for a score of inter-related war industries.

What is considered of more immediate practical use is some action on the part of the government which would make available from the inactive or home defense army a number of able-bodied men with previous mining experience and the stricter enforcement of NSS rules and regulations now on the books but deemed of little practical value so far as finding men for the key underground mine jobs in base metal operations.

Elson From Washington

(Continued from page 1)

form of limited recognition of the French Committee of National Liberation by those countries now collaborating with the Anglo-American coalition. Probably it will not satisfy everyone, but it will be a working compromise for the present that will not commit us too definitely as to the future of France, which the American policy-makers, at least, feel must be decided by the French people.

● On the production front many of the decisions taken at Quebec will obviously have important repercussions on the Canadian war economy. There is no authoritative information on this now. Much of the deliberations centred on the all-important subject of transportation which in the case of the Pacific concerns air transport as well as shipping. Prime Minister Churchill said the balance is turning against the enemy and U-boat which means the full force of our increased production can be more rapidly brought to bear against the Axis. Churchill has maintained ever since the May conference with Roosevelt in Washington that the battle of production has been won as long as the present rate of output can be maintained.

The increase in Allied aid to the Pacific will, however, require maintenance of our shipbuilding at present peak levels for at least a year or 18 months more. The distances are so great there that there can be no letup in this field. At the same time the continuation of the Allied air offensive both in Europe and Asia requires production of long-range, heavy bombers and patrol planes, both of which are on the Canadian schedule. If Canada then, in addition to the tasks now assigned her in other fields, undertakes equipment of Chinese divisions with small arms, as was reported in Quebec, the Dominion's factories need fear little letup in the over-all total of war orders, although present schedules may be substantially revised.

● The part that Canada played in the deliberations was largely that of host. Mr. Roosevelt made it clear that the meeting was essentially an Anglo-American staff gathering. Canada enters these deliberations, whether they are held at Quebec or at Washington on the tactical level — that is, the Dominion is not called upon to take responsibility for the final decisions. Obviously Mr. King is generally aware of the trend of discussions and may intervene to ask that Canada be assigned certain tasks. Canada, however, does not actually take part in the council.

The announcement by President Roosevelt and Prime Minister King of the joint Canadian-American operations at Kiska might very well have been one of the headline events of the meeting. But the "self-removal"—as the President put it—of the Japanese from this hemisphere made it something of an anti-climax. From standpoint of our future relations with the U. S. this evidence of Canada's desire to play a full part in the Pacific war had long range importance. It is as essential for Canada to have her troops collaborating with the American forces in the Pacific as it is for our army to be in Britain and Sicily.

Creation of a new Canadian-American joint war aid committee fills an important gap in the machinery of our U. S. relations. It was necessary under our new mutual aid legislation to have some organization by which work previously handled by the munitions assignment board could be disposed of. Most of the members have worked informally at ironing out the problems which they will now handle officially.

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Hearst Seeks Liquidation

(Continued from page 1)

panies is somewhere in the neighborhood of $8½ millions. In addition, these operators carry open accounts for Hearst, representing current shipments which are paid for in cash under the usual trade terms.

As far as can be learned, none of the companies has accepted the offer. In fact, the overtures are regarded as feelers and possibly as a basis for working out an arrangement acceptable to both parties.

The Hearst newspapers are known to have effected a considerable improvement in their financial position in recent years. Two or three years ago most of the Canadian operators looked upon the notes as being of doubtful value. The majority, if not all, have long since transferred the Hearst notes from their current to deferred accounts.

With the change for the better in the Hearst financial picture, there is a better than average prospect that the companies will be able to realize on these notes.

Weekly Record of Financing in Canada

SALES BY MUNICIPALITIES, PROVINCIAL AND DOMINION GOVERNMENTS

Municipal—	—Sold to—	Rate	Due	Amount	Price	Yield
R. C. Episcopal Corp., Ottawa	Harris, MacKeen, Goss & Co.	3%	1944-53	$47,500	....	....
		3½%	1954-68	84,100	....	....
		3½%	1944-58	28,000	....	....

8 PRE-WAR YEARS OF PAYROLL EXPANSION POINT TO HIGH POST-WAR POTENTIAL

CANADA'S next area of industrial expansion is British Columbia.

Disregard the abnormal impetus of war, and British Columbia is still the third manufacturing province of Canada.

By 1939 British Columbia's industrial payroll had equalled those of the prosperous '20's. Her growing industries were pouring out exports totalling 150 million dollars annually . . . lifting Canada to fifth place among world trading nations.

With timber, minerals, fish and superabundant power, British Columbia stands squarely in the path of important world trade developments now in the making. Far-seeing manufacturers are keeping a sharp business eye on British Columbia today.

Advertising intelligently directed to the British Columbia consumer NOW will lay the foundation for a ready consumer acceptance of goods in the post-war years ahead.

REMEMBER! 50% OF BRITISH COLUMBIA PURCHASING POWER IS IN GREATER VANCOUVER TRADING AREA

Of 169,767 persons employed in British Columbia at March 1st last, 85,542 were in Greater Vancouver alone. With a circulation of 102,000 The Vancouver Daily Province covers 73 per cent. of the Greater Vancouver and 47 per cent. of the British Columbia markets.

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"The Major Medium in a Major Market!"

VP-1

In Your Opinion—

Can We Hold Price Ceiling?

The Question: Donald Gordon says price ceiling will collapse without prompt public support. Do you agree and what remedies would you suggest?

Paul Bilkey
Editor, Gazette, Montreal.

I doubt if public indifference is more than a secondary threat to price ceiling, though rising food prices have impaired confidence in the present control system.

More real danger lies in successive and successful attacks on the ceiling by pressure groups exerting class influences. Official resistance has been neither resolute nor sustained, and unwise concessions have led to new demands. Mr. Gordon's trouble stems from the government's failure to support him and the remedy lies much nearer home than is suggested in his latest appeal for public co-operation.

• • •

Dr. J. K. Blair
Liberal M.P. for North Wellington, Ont.

Donald Gordon's price ceiling, like all other wartime measures, requires and should obtain the utmost support and co-operation of the press, radio, preachers and gossipers in every line of life. It must govern with equity and the black market must be dealt with heavily. It should govern the wholesaler and distribute with fairness to the small retailer. Dangerous foreign elements and hoarders are not willing to sacrifice to the needs of the war and thus accumulate a large number of petty grievances, forgetting the larger issues.

I am behind Donald Gordon one hundred per cent. He has blazed a new trail for the world and is bound to find rocks and bogs, but if supported by all, he will avoid depression and collapse.

• • •

W. K. Esling
Conservative M.P. for Kootenay West, B.C.

There can be no argument against Donald Gordon's assurance that the price ceiling will collapse unless the fullest public co-operation continues. Without the ceiling there would be pyramiding of prices, necessarily followed by successive wage increases with nothing but financial and industrial chaos.

It is conceded that the one sure way of maintaining ceilings is the closest inspection and the strictest enforcement of the Board's orders. There is the fullest co-operation on the part of the merchants in West Kootenay, the one complaint being the inability to secure a quota of staple articles sufficient to meet the daily requirements within the reach of the earnings of the industrial workers.

• • •

W. T. G. Hackett
Economist, Bank of Montreal, Montreal.

I would agree with Gordon's statement as quoted. I consider that the basic remedy lies in fuller public appreciation of issues involved.

I suggest the need for a definite effort to organize all responsible agencies of public opinion, to present in simple and compelling terms, shorn of obtuse and technical jargon, the fundamental issues regarding the nature, causes and disastrous consequences of inflation.

The full effectiveness of public education is contingent upon the government itself making every endeavour to avoid even minor inconsistencies in the control program and maintaining an uncompromising front against pressure of special interests to gain unjustifiable advantage through income or price concessions.

• • •

Benjamin Higgins
Professor of Economics, McGill University, Montreal.

The ceiling is under severe strain. The public can help by shunning black market, reporting ceiling violations, buying and holding savings certificates and bonds, accepting limits on wages and profits without protest or evasion.

I would not rely on public support alone. The government has the anti-inflation weapons needed to defend the ceiling but they need fortification. I suggest complete government monopoly of foreign trade and rationing of total consumer outlays or a steeply progressive spendings tax. The best remedy might be similar American measures but the Canadian ceiling can hold even with American inflation if the government and the public unite in determined action.

• • •

Dr. H. A. Innis
Professor of Economics, University of Toronto.

Your question is political not economic. The answer is in principles not in individuals.

With the continued flagrant violation of its British tradition of anonymity in the civil service we have neither the protection of this tradition nor the recourse of its American system in dismissal.

Recent by-elections and elections suggest the general discontent of the Canadian people with bureaucratic exhibitionism. Complete recognition of the principle of power with responsibility will solve not only the problem of the price ceiling but others, and less than complete recognition makes the price ceiling problem unimportant and insoluable. We are not fighting for democracy abroad in order to have a chance to destroy democratic principles at home. Morale requires an insistence on tangible recognition of democratic traditions.

• • •

A. E. Jukes
President A. E. Jukes & Co., Investment Dealers, Vancouver.

I believe the public have sufficient knowledge of the dangers from price inflation to support present price controls. Public support for the price ceiling will not be lacking if all government departments set the example.

Chief pressure for increased wages and higher prices has come from within the government itself and government financed companies. With leadership from Ottawa, price controls could easily be maintained and made to function. Without leadership we can only hope for a repetition of results of recent by-elections, which indicated strong protest to present administration.

• • •

Peter Kennedy
Prominent farmer, Conquest, Sask.

I have no opinion upon the imminence of price ceiling collapse. No information, assuming Gordon is correct, would stop garbled war news and give a true picture of the losses of the allies and axis in battle.

We should impress the public with the most serious aspect of conflict. Employ the strong hand method under Defense of Canada Act in dealing with those who are applying pressure upon price ceiling.

• • •

H. G. Long
Editor, Herald, Lethbridge, Alta.

A terrific strain on the wage and price ceiling was evidenced by recent voting. The failure of the general public to understand the overall picture is the cause of discontent with controls.

If the public understood that the same degree of inflation as at this date in the last war would make Canada's war cost $6,000 millions a year instead of the present $4,000 millions, and that the difference would have to be met by greatly increased taxes and larger subscriptions to war loans, it should help. War weariness and discontent may grow if Canadians cannot be brought to understand the real need for these controls.

• • •

Matthew MacLean
Liberal M.P. for Cape Breton, North Victoria, N.S.

It is absolutely necessary that the price ceiling in Canada be maintained, and that the Canadian public give every support to Mr. Gordon is his wonderful effort to stabilize prices, otherwise the price of all necessaries will immediately soar to prohibitive rates, as in the last war.

All one needs as a warning is to look at the price asked for certain goods that are not governed by the price ceiling. In the event of a collapse of the ceiling the public will realize their mistake in not supporting the Board in their endeavor to keep down the cost of the necessaries of life.

• • •

T. C. MacNabb
President, Saint John Board of Trade, Saint John, N.B.

Yes, I believe the price ceiling will collapse without prompt public support. Selfish groups and selfish individuals must be made to cooperate fully. When the Canadian people understand what it means they will unanimously support the price ceiling. They have too much sense to destroy this control and to lose the war and spoil the peace. To get full support from everyone, three things should be done.

1. Take the public into entire confidence about all the needs and all the remedies.
2. Keep supplies available, particularly foods—both the usual types and the alternatives.
3. Use subsidies freely to bring this about. When this is done Canadians will cheerfully, willingly and completely accept temporary embarrassment to save their nation.

• • •

J. R. Mallory
Instructor in political science, University of Saskatchewan, Saskatoon.

I agree that price ceilings are in almost as much danger as in the postwar reconversion period while consumer goods are getting back on the market. Business leaders and advertisers are so insistent on returning to a free economy immediately after the war that they weaken public awareness of the need for controls as counter - inflationary measures.

The Government's great falure has been to gain the confidence of organized labor, e.g., over the War Labor Board. Thus it is difficult for labor leadership to command respect for other aspects of government policy to the extent that has been done in England. Both are remediable sources of weakness to price control. Also, a wider use of subsidies to control the rising cost of living may be necessary to prevent additional pressure on wage ceilings.

• • •

W. A. McKague
Secretary, Dominion Association of Chartered Accountants, Toronto.

My strictly personal opinion is that persistent appeals to the public are tiring in view of the inconsistencies in the government's own policies. For instance, first, the wide list of commodities exempted from the original ceiling; second, the wage bonuses increases and income tax exemptions which keep public purchasing power ahead of supplies of goods, and third, the absence of adequate safeguards and incentives for savings.

Under managed paper currency such as now exists, the control of price level is supposed to be within the government, and insofar as the public has any influence, it seems to have played its part.

• • •

Hon. Grote Stirling
Conservative M.P. for Yale, B.C.

To prevent collapse of price ceiling, the Board must continue to impress on wholesalers, retailers and consumers, the necessity in their own interest of giving wholehearted support to the one thing that stands between us and inflation. It must be patiently and unceasingly drummed into the well disposed and the ignorant, and the wrong-doer must be stringently dealt with.

• • •

H. H. Talbot
Mayor of Leaside, Ont.

I am in full accord with the comments of Donald Gordon on price ceiling. Price control cannot be a success without full public support. I suggest a continual series of educational advertisement on the danger of inflation.

The experience of other countries, notably Germany, should be enough to convince the average man of the necessity of maintaining the policy of the government covering price ceiling for his own financial safety.

Woodstock Firm Orders Cut

Massey-Harris Likely to Release 245 Men; Some Skilled Help to be Kept

Government instructions to Massey-Harris last week unexpectedly cancelled orders for manufacture of a type of bomb being made at the company's Woodstock plant.

Manufacturing was being done at the order of the British Government, and is being discontinued for military reasons. Cancellation will affect employment of about 245 persons, a few of whom will be retained by the company in its other plants. In particular, the technical and operating staff, which the company had built up at Woodstock, will be fully utilized elsewhere within the company, officials state. Selective Service officials have indicated that they expect that all persons released from their jobs will be absorbed in Woodstock.

Production will continue until present inventories are used up which should be accomplished in about two weeks. No indication has been received from Ottawa that further work is in prospect, although company officials have approached the authorities on the matter, and it is not expected that work will be resumed in that part of the plant for some time. Truck bodies and wagons will continue to be produced at the plant with a labor force of about 200 workers.

Loss to Company

Although cancellation of the contract will represent a loss to the company, plant capacity which will be left idle has not been newly built in response to war demands. The company has been engaged in the manufacture of the present bomb type for about six months and, prior to this, was making shells on the order of the British Government.

Three other plants received notice to discontinue their present production last week. These were Northern Engineering Co., at Fort William, where they were turning out shells and bombs, the Montreal shell shop of Canadian Tube & Steel, and National Steel Car at Hamilton, which must close down two forging lines. In the latter case it is believed that these two lines will be switched to other war work. The Northern Engineering plant employed about 325 men, most of whom are expected to be employed in the local Canadian Car & Foundry aircraft factory.

Trucks Available

OFFICIAL ONTARIO "SHIP-BY-TRUCK" DIRECTORY. Published by The Automotive Transport Association, 2 Toronto St., Toronto. Free upon request.

Listing more than 2,000 communities and giving details of trucking services throughout Ontario, the 1943 edition of the "Official Ontario 'Ship-by-Truck' Directory" is just off the press. It is a handy guide for shippers of freight and comprises 104 pages of information relative to transport services and routes.

The A.T.A. is a voluntary association of licensed public commercial vehicle operators. Its purpose is to stabilize the inter-urban motor transport business.

FACTORY IN 194X

COMPLETE RECREATION FACILITIES for the use of employees at lunchtime and after hours . . . a roof-top cafeteria with tables in sunlight and shade . . . bowling alleys, floodlighted for evening use . . . ample space for deck-tennis, shuffle-board, horseshoes and other outdoor amusements.

These are exciting features of this factory project designed by architect Richard Bennett, member of the faculty of Yale University and of Vassar College, and winner of the recent Wheaton College competition.

"Facilities like these," says Mr. Bennett, "make the factory a potential community and social center. They can be located on factory roofs without necessitating any increase in floor or plot areas."

This is another in a series of architectural designs suggesting greater utilization of valuable roof space that is too often neglected.

Barrett coal-tar pitch and felt roofs have been standard for flat-roof construction since 1854. Yet they are ideally suited to accommodate the current trends in post-war planning. Whatever the design, Barrett Specification Roofs will continue to provide the maximum in dependable, long-lasting water-proofing and weather-proofing protection.

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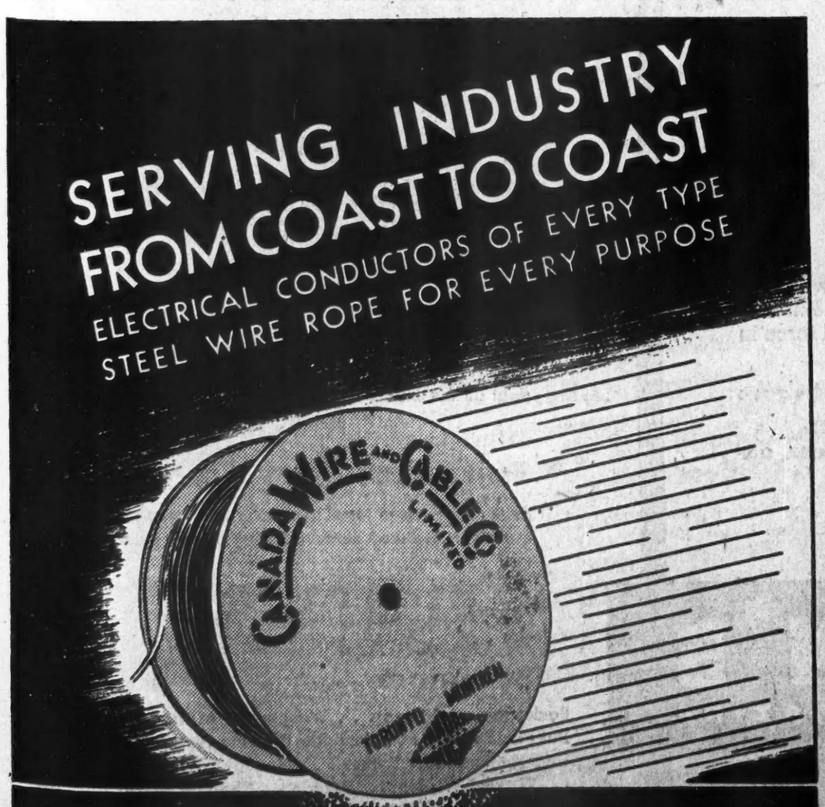
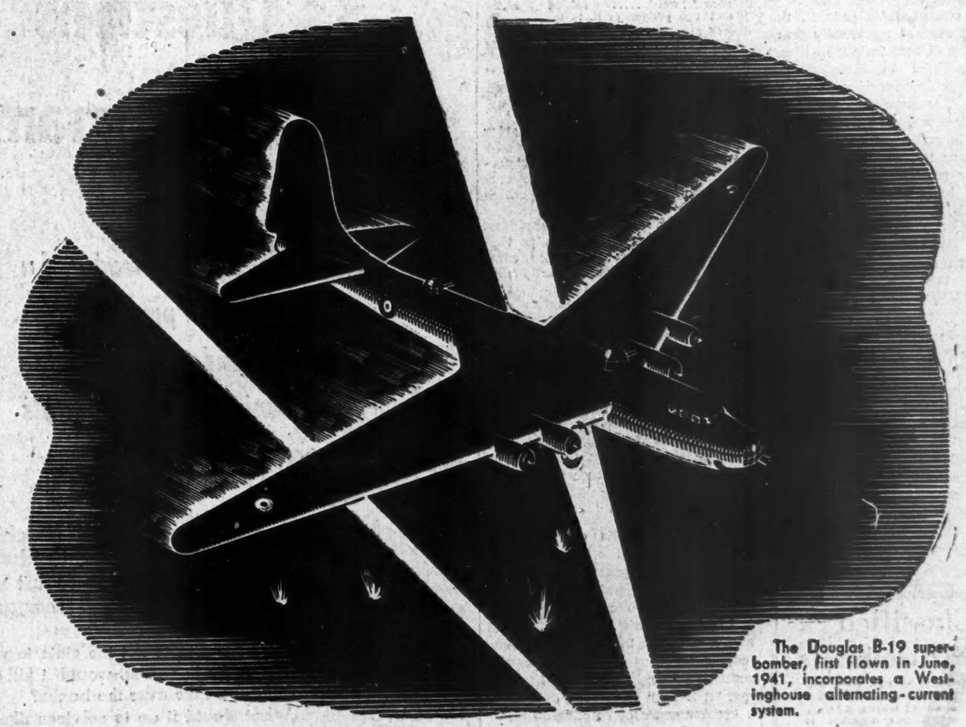


BRANCHES IN PRINCIPAL CITIES ACROSS CANADA



The Douglas B-19 superbomber, first flown in June, 1941, incorporates a Westinghouse alternating-current system.

To fly higher than flak . . .

SUPERBOMBERS CALL FOR ALTERNATING CURRENT

. . . pioneered by Westinghouse

Push superbombers higher . . . lift them clear of the clutching fingers of flak! Sure, it takes more powerful electrical equipment than has ever been used in aircraft before, but get them up there—six—seven—eight miles high!

Funny things happen to electric equipment up where the air gets thin. Arcs just don't behave. And with *direct current*, the kind generally used in planes today, size and weight of the equipment become unwieldy.

Westinghouse is solving these problems with special three-phase, 400-cycle *alternating-current* systems for aircraft.

A three-phase a-c installation in the huge B-19 was so successful that larger a-c systems are now being perfected. This increased power enables planes to fly higher, farther, and shoot faster.

Into this change-over, Westinghouse is pouring the "know-how" of its early pioneering work in changing industrial power systems from d-c to a-c.

Westinghouse

CANADIAN WESTINGHOUSE COMPANY LIMITED, HAMILTON, ONTARIO

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F-24

IHES Status Still Confused

Johns With SEC in Asking Court to Take Over Assets

From Our Own Correspondent

MONTREAL.—Expiration on July 21 last of the 12 months' period granted to International Hydro-Electric System to comply with an order of the Securities and Exchange Commission to "liquidate and dissolve," under the Holding Company Act, finds the system unable to comply with the terms of the order. In place of seeking an extension of time, the company, with approval of SEC, has withdrawn its original plan and will support an application to be made to the court on Oct. 8 next if the court takes jurisdiction over company assets. While under the court's jurisdiction, however, the company would remain in possession and have management of the assets.

The present move is being made to facilitate taking care of an obligation that is fast approaching, the maturing of $26,568,000 of the 6% debentures of the system which fall due on April 1, 1944.

Drop Own Plan

International had proposed to plan a liquidation by means of a distribution of its assets and kind among its security holders, namely, the holders of the debentures.

The Canadian interest, apart from substantial holdings of the debentures of the system, rests in the Canadian assets represented by Gatineau Power Co. Of a total of 1,662,480 shares of Gatineau Power outstanding, 1,439,024 are held by International Hydro. It was proposed that nearly the entire amount, or 1,434,672 shares, representing 54 shares for each $1,000 face amount of the debentures, will be distributed as soon as practicable to the debenture holders. Complications, however, arose in regard to the liquidation of the interest in New England Power Association which required to be reorganized. Two other units were to be sold.

The Shareholder

While New York stock market commentators have been chary about forecasting a continued upward trend for the N. Y. stock market since the set-back experienced the last week in July, it is interesting to note that no similar set-back was experienced by the London stock market, where numerous issues are selling at or close to their highs.

In fact, the London stock market was establishing a new high when the New York downward movement was most marked.

As one commentator puts it, the New York market apparently fears the "hurdles of economic transition" and is inclined to discount the "glowing post-conversion postwar outlook." The London market apparently does not view the period of economic transition as so portentous—or perhaps the possibilities of inflation are seen as more imminent than they have been considered to be in the U. S.

Actually, the danger of inflation may be more imminent in the United States than in the United Kingdom. While the load of total debt is probably heavier in U. K. than in U. S., U. K. control of prices appears much stronger than in the country to the south where considerable difficulty has been experienced in holding the price ceiling.

* * *

The Canadian stock market still tends to follow the New York market, but the association between prices here and in New York is much less marked than prior to the war.

If the London approach to stock market prices is becoming more realistic than that in New York—and the Londoner is shrewd when it comes to stock trading—then Canadians may be inclined to take their stock-trading cues from London more often in the future than in the past.

* * *

Canadian defaults on municipal indebtedness and the Alberta policy of paying only part of contractual interest requirements came up for discussion in a recent issue of the London Economist. The Economist makes the point that debtors are now more prosperous and if this means a reduction in reliance upon borrowing, "it is high time they developed a greater sense of responsibility."

Moose Jaw, Montreal and Alberta are singled out as cases in point. Voicing a demand for reform, Economist declares:

"The exact payment to overseas bondholders may be of minor importance compared with securing that reform, but it must be considered as an essential part of it."

* * *

Adelphi Syndicate plans surface exploration for its white mica property at Aylen Lake, Dickens twp., District of Nipissing, Ont. Property comprises 80 acres adjoining a property where active mica mining is reported being carried on. Work will be commenced as soon as current financing is completed, N. H. Treadwell, syndicate manager and trustee, states.

Company Reports

D. A. Stuart

The annual report on the operations of D. A. Stuart Oil shows an increased profit before income taxes for the year ended May 31, 1943, but a reduction of the net profit available for dividends. This latter figure amounted to $131,697 compared to $149,231 the previous year.

Dividends were paid of $1.05 a share on preferred and 85c. on common stock, 25c. a share being paid on both stocks under the participating feature. During the year plant, office and laboratory facilities were constructed to the amount of $47,953, while at the same time working capital was increased approximately 35% to $415,475.

Income, Surplus—Years Ended May 31	1943	1942
Net earnings	$541,836	$378,400
Less: Depreciation	7,350	8,423
Federal taxes	388,000	205,805
Patent amortiz.	16,939	16,939
Net profit	131,697	149,231
Less: Pref. dividends	42,120	23,485
Common divds.	35,500	18,000
Surplus for year	64,007	99,746
Add: Prev. surplus	160,617	69,726
Less: Prem. on pref. shs. red.	250	7,855
Surplus forward	224,374	160,617
Earned per share:		
Preferred*	$3.29	$3.71
Paid	1.05	0.80
Common▲	1.76	2.01
Paid	0.85	0.60
*Before participation. ▲After participation.		
Working capital	$415,475	$203,485

Dairy Corp.

With a net profit available for dividends of over $70,000 for the year ended March 31, 1943, Dairy Corp. again showed substantially increased profits. The refundable portion of the excess profits tax, is not included.

J. A. Caulder, president, points out that during the past year the company's bank indebtedness, which stood at about $75,000 last year end has been eliminated and working capital substantially increased. This was made possible largely by the sale of $140,000 Purity Dairy Ltd. 5% first mortgage serial bonds, which are to mature to the amount of $10,000 each year from May 1, 1943 to 1956 inclusive.

The standard profits base for the taxing of the company has not yet been finally decided, and the directors have made what they believe to be a fully adequate provision for income taxes.

During the year the company's Regina business was further rounded out by the purchase of the Regina Pure Milk Co.

Income, Surplus—Years Ended Mar. 31	1943	1942
Sales	$3,716,125	$3,151,369
Less: Sales cost	2,600,174	2,207,780
Sell. & admin. exps.	799,910	733,986
Operating profit	316,044	209,603
Add: Other income	10,849	5,551
Net earnings	326,893	215,154
Less: Depreciation	75,611	73,038
Bond interest & min. int. of subsid.	56,895	48,625
Bank interest	5,389	11,005
Inc. & E. P. tax	*118,501	30,403
Net profit	70,497	52,083
Add: Prev. surplus	99,458	40,375
Ref. E. P. tax	11,365	.....
Less: Adj. subsid., stock divd.	38,626	.....
Balance forward	135,694	92,458
*Incl. ref. portion of E. P. tax.		
Earned per share:		
5% 1st pref.	$10.76	$7.91
Common	0.69	0.45
Working capital	$267,676	$166,617

Falconbridge

Net profit for the second quarter of 1943 of $155,568 was reported by Falconbridge Nickel Mines, representing an increase over the corresponding figure for 1942, which amounted to $136,183.

In a report to the shareholders, A. G. Fulton, secretary, states that quarterly results reflect the company's increased plant capacity and:

"While much of the increase in nickel output is marketed on government contracts that show little or no profit, yet increase in copper output is remunerative, and the greater divisor afforded by the increased production has effected downward revision in unit charge costs."

Earnings Statement—Quarter Ended June 30	1943	1942
Gross oper. profit	$555,196	$488,917
Less: Tax prov.	77,000	65,000
Depr. & def. dev.	323,639	289,734
Net profit	155,568	136,183
Capital expenditure	$134,008	$200,593

Algoma Steel

Profits of Algoma Steel Corp. were more than doubled for the year ended April 30, 1943, as compared to the previous year. They reached the figure of $846,803, or $40.72 a share earned on preference shares and $1.80 on common.

Operating profits before interest, depreciation and taxes showed an increase of nearly $1.2 millions. The year saw completion or near completion of the coke ovens, coal storage and docks, and two blast furnaces which were reported to be under construction in the last annual report. Net expenditures on property, plant and equipment during the year were $1.8 millions, while at the same time working capital increased considerably to $6.1 millions.

The company's No. 5 blast furnace, which is reported to have a daily capacity of 10,000 tons of ore, and which is the largest in the British Empire, is scheduled to come into production in the very near future. The company also has under construction new steel works, which when completed will increase steel output by more than 235,000 net tons of ingots annually. Part of this increased steel plant is already in use.

During the year Algoma Steel's subsidiary, Algoma Ore Properties, produced and shipped 414,602 tons of sinter compared with 487,865 the preceding year. The decrease was the result of the late opening of navigation. Production in the current year is expected to reach 450,000 tons, the report states.

Expenditures on open pit and underground exploration and development at the Helen Mine amounted to $253,024. Algoma Ore Properties have during the last three years spent $230,298 on intensive exploratory operations on its properties, the annual report states, and on one of these properties has revealed an estimated 50 million tons of magnetite without any deleterious ingredients. This is sufficient for the production of 20 million tons of 64% irop concentrate. The report states:

"Exploratory drill holes several hundred feet below the levels considered in the above estimate show the deposit still persists and the deepest hole so far drilled has not bottomed the ore. Some 3,500 ft. of territory on which magnetite is indicated remain to be drilled."

The territory which has been drilled so far covers a length of 4,500 ft.

Income, Surplus—Years Ended April 30	1943	1942
Operating profit	$3,817,437	$2,626,788
Add: Other income	38,986	70,528
Net earnings	3,856,423	2,697,316
Less: Int. on loans	160,936	129,062
Int. on bonds	107,700	115,700
Depreciation	2,120,854	1,790,307
Income taxes	620,130	247,802
Net profit	846,803	414,445
Less: Pref. divds.	104,375	104,775
Surplus for year	742,428	309,670
Add: Prev. surplus	3,492,075	3,182,405
Earned surplus fwd.	4,234,503	3,492,075
Earned per share:		
Preferred	$40.72	$19.78
Paid	5.00	5.00
Common	1.80	0.75
None paid.		
Working capital	$6,130,002	$4,244,258

SALES MANAGER

F. H. Mount, who has been appointed sales manager for Canada for the Campbell Soup Co. He was formerly in charge of Quebec district sales for the company.

Siscoe Gold Mines realized an estimated net profit of $146,454 for the six months ended June 30, 1943, equal to 3.156 cents per share compared with 3.878 cents a share for the corresponding period of 1942. Tonnage of ore milled showed a slight increase, amounting to 181,269 tons for the first six months of 1943 or 200 tons more than in the first six months of 1942. Gross income, however, was lower at $870,344 compared with $918,577 for the first six months of 1942.

Market Opinions

Barron's (The Trader): Tax payments in the U. S. Sept. 15 will be extremely onerous and will draw heavily upon the liquid resources of individuals in the higher brackets. Particularly severe will be the effect upon expanded incomes of 1943. Whether payments the middle of the next month will result in any substantial liquidation, it is too early to judge, but their effect upon potential new buying can already be visualized. . . . Under the circumstances, a wide-open liquidating movement conceivably could arise only from factors that have yet to emerge. As the modest short interest shows, the technical position of the market is none too strong. The cue to immediate developments should come from the trend established with the return of normally active trading.

* * *

Barron's (Dow Theorist): If both Dow Jones' averages now fall under the early August lows of 134.00 and 33.73, the movement will be confirmed as a secondary down trend. Such has been the interpretation of the nature of the decline for several weeks, but there are still doubters. If the averages, on the other hand, rise above the July highs, they will merely have re-confirmed the primary trend as upward.

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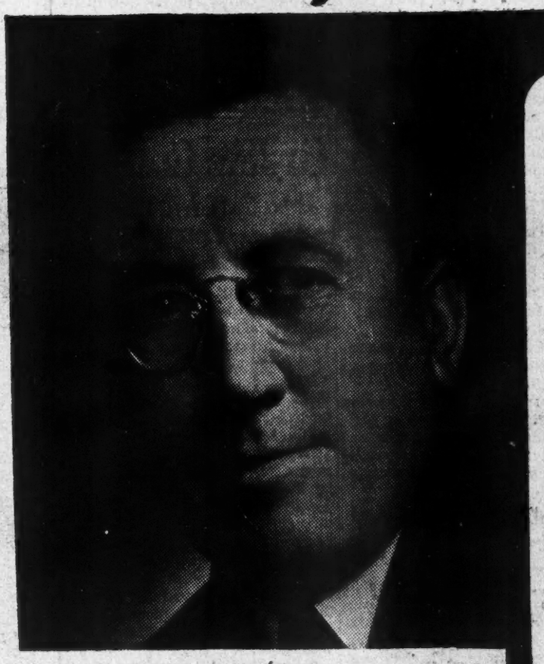
For the first time the leader of a national political party submits to an independent quiz on the real meaning of his party's program.



M. J. COLDWELL, M.P.
National CCF Leader

Maclean's editors and Bruce Hutchison, ace political writer, drafted 33 questions. These were submitted to Mr. Coldwell. He agreed to no reservations, either in question or in answer. The result is one of the most timely political revelations ever published in a Canadian magazine.

Does the CCF want the state to run everything?
If it came to power, would it kill all private enterprise?
Would it take over the banks?
What would it do to services like the delivery of milk and bread?
Would anybody be allowed to make a profit?
Would it make a levy on capital?
Would it keep Canada in the Empire?
Would it control wages?
Does it promise every man a job?
What is its policy on war debts, tariffs, social services, postwar reconstruction?

These questions are of vital interest to every Canadian. All Canada wants to know the answers. You may disagree with CCF policies on many of them. But whether you like the CCF or not, it must be recognized as a strong political force in the country. You ought to know just what it stands for.

Don't miss Mr. Coldwell's answers to these questions, published exactly as he gave them, in September 1 Maclean's.

Also, a searching pen portrait of COLDWELL THE MAN by Grant Dexter, distinguished Ottawa political correspondent.

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* * *

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Urges Realistic Appraisal of CCF by Old-line Parties

Norman Ward, Assistant to the Commissioner on Provincial Development and Rehabilitation, Nova Scotia, has contributed the following to the Hutchison-Macdonnell discussion on the CCF. On Aug. 14 The Financial Post carried an article by Bruce Hutchison in which the conclusion was reached that the two senior political parties should unite. Since then an article commenting on, Mr. Hutchison's thesis appeared in The Post of Aug. 21 from the pen of J. M. Macdonnell, president of the National Trust Co. of Toronto. Further comments on the Hutchison article will be welcomed by The Post.

Mr. J. M. Macdonnell's misstatement of Bruce Hutchison's thesis, that growing CCF opposition will force the two older political parties to unite, as an argument that the two parties **should** unite, appears to indicate a dangerously stand-pat attitude on the part of sincere Conservative opinion. It is not my intention to argue that Mr. Hutchison is right, and Mr. Macdonnell wrong, but rather to point out that Mr. Hutchison is likely to turn out to be right unless a more realistic attitude is taken toward the actual threat presented by the CCF.

It is all very well to quote the Gallup Poll's revelation that people voted for the CCF for reasons of extraordinary vagueness, and that only a small percentage of them favored public ownership. The danger in that argument is that it overlooks the fact that equally vague reasons would be given by the electorate for voting for the Liberal or Progressive Conservative parties, and that, in any case, whatever the reasons, a rapidly growing percentage of Canadian voters are voting CCF.

Tribune Argument

It is all very well to argue, as does the editor of the Winnipeg Tribune, as quoted in The Financial Post for Aug. 14, that the CCF "in and out of season . . . maintains that there is no real difference between what it calls the two 'old-line' parties." The danger there is that precisely the same view is held by Mr. Hutchison, an impartial observer, and by most academic political scientists in Canada—and that the statement is, in fact, as a comparison of the Liberal platform of 1919, for example, with that of the Conservative of 1927 will show, **apparently true.** In the "old-line" parties, or whatever one chooses to call them, what matters is not principles, but personalities—a vital point of which neither Mr. Hutchison nor Mr. Macdonnell appears to take cognizance in their arguments.

Thesis Untenable

The arguments considered in the foregoing paragraph are not made by Mr. Macdonnell. But what seems to be an equally insecure stand is taken by him when he challenges Mr. Hutchison's contention that the CCF will have to learn to compromise with existing forces, on the grounds that this will involve a violation of basic creed and make the CCF party identical with the other two—so we don't need it. That argument implies that the CCF, by learning to compromise with forces of conservatism in the country, will become a "conservative" party. And it, therefore, follows, using the same line of argument, that the Progressive Conservative party, in view of its new name and chosen platform, is becoming a Socialist party because it is compromising with a world-wide trend toward greater state activity. Mr. Macdonnell, I am sure, would be the last man to admit that.

CCF Threat

It is putting the problem too glibly to state, "If the CCF means socialism, we don't want it, and if it doesn't mean socialism, we don't need it." For what is the spur that is forcing the hand of the Progressive Conservatives, for example, if it isn't the threat of the CCF? The fact of the recent emergence of the new Progressive Conservative party clearly indicates that whether the CCF means socialism or not, there are enough Canadians who want it, or something like it, to cause a change in direction of at least one of the two older parties. And just as surely as it is wanted, then it is needed, just as much as that alarmingly growing percentage of our society that supports it is needed. The only question that remains is whether it will accomplish its work itself—or do it indirectly by forcing the hand of the older parties.

Success in Compromise?

What will determine whether Mr. Hutchison is right or wrong, in short, is not whether we need or want the CCF, but the success of one or other of the two older parties in appraising accurately what forces are giving rise to the CCF's success, and compromising with them. The conservatism of the present Liberal party, an attitude necessitated by its inclusion of the Quebec bloc, makes it unlikely that it can do the job—and that leaves the Progressive Conservatives. To the extent that the latter party sits back and fails to grasp the real threat of the CCF, to that extent will the two older parties inevitably drift toward merger, in order that they may survive as intact as possible.

John F. Boland, B.A., K.C. of the legal firm of Macdonnell & Boland, Toronto, has expressed his views on the Hutchison article of Aug. 14 in the following letter to The Financial Post which is herewith reproduced.

In accepting the invitation contained in your recent issue, it is in the hope that further discussion of the Hutchison article may result in some immediate planning by those who have most at stake.

A review of the history of the Progressive Conservative and of the Liberal parties is necessary to determine their present orientation and the handicaps, if any, they are respectively under by reason of their present leadership.

In 1896 Sir Wilfrid Laurier laid the main foundations of the Liberal Party. Laurier established the British preference. He sent a contingent to South Africa in 1899. He occupied in the British Imperial Council the position now held by General Smuts. In 1911 Sir Wilfrid Laurier adopted the advice of Fielding and Macdonald of the Globe and committed the country to reciprocity with the United States.

In the election which followed, Laurier was swept out of power. When the war of 1914 commenced he was in opposition and refused the invitation of Sir Robert Borden to join the government. At the time Laurier was without the support and advice of the stalwarts with whom he surrounded himself in 1896. He was advancing in years and was persuaded by Lapointe to take no part in the war administration.

Relies on Quebec Bloc

In succeeding to the leadership of the Liberal party, Mackenzie King found it necessary to rely upon a solid Quebec and so accepted the policy of isolation of Mr. Lapointe. Neither Mackenzie King nor any of the French-Canadian leaders are true to the policies as enunciated by Sir Wilfrid Laurier from 1896 to 1911.

Laurier adopted the national policy of Sir John A. Macdonald superimposing thereon the British preference. Mackenzie King removed the British preference created by Laurier. Following the 1932 Imperial conference at Ottawa, Bennett created an Imperial preference. When Mackenzie King succeeded Bennett as premier he again removed the Imperial preference and sought opportunities for closer trade arrangements with the U. S.

The Progressive Conservative Party, on the other hand, has at all times and is today the main exponent of maintenance of Canada's position in the British Commonwealth of Nations. From 1867 down to date no leader of the Liberal-Conservative or Progressive Conservative Party has at any time faltered in his devotion and loyalty to the Empire.

Imperial Conference

In the dark days of the depression and before Franklin D. Roosevelt became President of the United States, R. B. Bennett brought to Ottawa the representatives of the Empire, which conference resulted in the British Empire trade treaties.

In appealing to the electorate in 1935 Mackenzie King featured the unity which he was in a position to provide. Yet as a result of the administration by Mackenzie King Canada is today more openly divided than at any time since the days immediately preceding Confederation.

The provincial election in Ontario, held on Aug. 4 last, shows that the following of the C.C.F. is in the large industrial centres and in the areas of Northern Ontario where the French Canadian vote predominates. It is conceded by all persons interested in the welfare of Canada that election to Parliament of a government presided over by the leaders of the C.C.F. will result in greater disunion and greater dissatisfaction than is prevalent today.

Unity Lacking

As both the Liberals and the C.C.F. are unable to provide an administration which will unify the country then it becomes necessary to examine the present setup of the Progressive Conservative Party to determine if its leader and policies shall produce results and achieve the goal which all citizens interested in the common good are concerned in achieving.

The Progressive Conservative Party leader is John Bracken, an agriculturist, a parliamentarian of experience fully conversant with the requirements of the West, a student of present-day conditions and above all, a firm adherent of maintenance by Canada of its position in the British Commonwealth of Nations. If the Progressive Conservative Party has today such a leader, it is largely due to the efforts of Arthur Meighen, P.C., who called together the Parliamentary group which organized the Winnipeg Convention. He chose a worthy successor.

Since his election as leader John Bracken has travelled the entire country in an effort to unite it.

Fortunately for John Bracken and the Progressive Conservative Party the election of 1940 was fought on two issues, one of which was a National Government during the war and the other no conscription for overseas service.

John Bracken and the Progressive Conservative Party are, therefore, in a position to appeal to French Canadians on the record of Laurier from 1896 to 1911 and on the record of Dr. Manion in the election of 1940 who supported maintenance of the British connection and preservation of all the traditions and institutions upon which the British Commonwealth of Nations is founded.

Canada's true position and destiny lies in preservation of such ideals and traditions and not in autonomy or closer unity with the United States.

Freedom Premised on Navy

In maintaining this position one does not overlook the outstanding contribution by Franklin D. Roosevelt, the President of the United States, both to Canada and to the British cause. At the same time, as has been truly said by Walter Lippman, the preservation of the institutions and of the freedom which exists today in the U. S. is and has at all times been premised upon the maintenance and supremacy of the British Navy.

The Progressive Conservative Party will, as in all previous crises, attract to its leadership and following all those of independent mind and those of the Liberal fold who are ready to prefer the common good to the cause of a political party. There is no ground or justification for an outright fusion or union of the Progressive Conservative and Liberal parties.

Pato Consolidated Gold Dredging, in the three months to Aug. 1, 1943, dredged 2,381,000 cu. yds. for recovery of 22,855 oz. of gold while hydraulic units recovered 4,211 fine ounces of gold. Total production value was $947,310 in U. S. funds which compared with $925,470, U. S. funds, the previous quarter and $722,610, U. S. funds, in the corresponding quarter of 1942.

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Gunflint Iron Mines, in an official report, announces acquisition of a group of 25 claims in the Shebandowan District, north of the Gunflint Range where the company has diamond drilling in progress. Diamond drilling is planned for the new property with a drill on the way. Possibilities for both commercial iron and gold deposits are held out for the new holdings.

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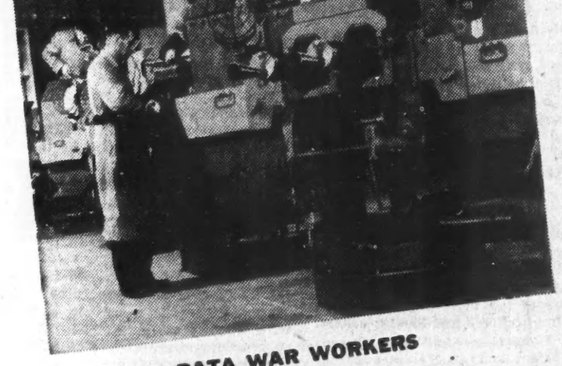

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This is truly a miracle of production . . . a miracle of organization, tenacity and skill by the more than 75,000 people now employed in the industry. This great army of workers is still rapidly expanding, and the present rate of aircraft production is daily mounting to greater heights.

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The Editorial Page . .

Time to Get Organized

Early official reports of the results of the Quebec Conference point the need for some more effective and representative method of bringing together spokesmen of the great United Nations' association.

Originally, the conference was supposed to be an Anglo-American military affair. This was preceded by an Anglo-Canadian political and armed services staff meeting. Then, one by one, political personages arrived and, at the last moment, representatives from China and Australia were summoned.

Throughout the whole conference (in the view of competent observers who attended round and about the meetings) there was a feeling of expediency; that things were being done very much on the spur of the moment and with little adequate thought or planning as to how and what other nations were to be represented — not to mention the burning question of Russia's attitude to the whole affair.

It seems time that a much more orderly and adequate method of round table United Nations' discussion and collaboration should be worked out. Canada's own suggestion, which has been made both privately and publicly, is for some form of "functional representation" whereby nations which have a real and immediate stake in these full-dress discussions should be given a regular place at the council table. Whether or not that particular formula would have made for more efficient operation at Quebec remains to be seen.

Certainly some regularized form of organization is needed whereby the United Nations become, in effect, just that, rather than merely an Anglo-American team which brings in China (and Russia if she can be persuaded) when occasion arises.

It is to be hoped that the meeting here on Canadian soil has given an opportunity for Canada to drive home on behalf of herself and other nations the view that more effective organization is now needed for meeting the grave political and other problems which now confront the United Nations.

More Penalties for Blundering

Revelation this week by our Ottawa correspondent that International Nickel has been forced to cut production by 10% because of manpower shortage, is grave and cumulative evidence of the weakness of Government manpower policy.

No Canadian needs to be told the vital importance of nickel to the United Nations effort; how proud this country has been to see output of this war-vital metal which goes into every nook and cranny of our armory increased. Now when the maximum flow of weapons is needed for offensive action, it is found that for lack of some 1,000 or 1,500 men, nickel production must be cut.

What can be done about it?

Officials at Ottawa make it plain that they want no more "paper work"; have no desire to issue another proclamation or declare the industry in a state of national emergency.

What these men believe (and most of them are men with practical experience in mining or metal operations) is that there are already too many orders and directives and that sometime soon someone must start enforcing the laws and orders already and supposedly in force. They contend that there has been little or no attempt to enforce the so-called "freezing" order of many months back; that men leave the mines almost as freely as they did before the order was made.

They contend that failure to adopt an over-all policy of compulsory national service has developed an atmosphere anything but helpful in bringing about enforcement of our present labor policy. They report a tendency on the part of management and employees alike to doubt the Government's sincerity in trying to enforce its laws. This in turn reacts against the effective solution of the entire manpower problem.

Only a few weeks ago The Post revealed that the air training program was in danger of shutdown due to the alarming shortage of manpower. This will, probably, in the long run, aggravate rather than help the alarming situation now disclosed at International Nickel, by drying up still further the almost empty pools of manpower resources.

The Post has no expectation that at this stage of the war effort it is possible to wave a magic wand and solve any or all of these problems overnight. What is increasingly evident is that the Government's over-all manpower policy and its administrative manpower machinery are still far from adequate to meet the needs of a country committed to all-out total war.

The Financial Post's Platform for War

1. *All manpower and resources, efficiently used, wherever needed, to win the war.*
2. *A national war cabinet of Canada's best, chosen not on party lines.*
3. *A non-political industrial executive to organize and direct procurement of war supply.*
4. *Pay-as-we-go policy, to the utmost possible limit to avert inflation.*
5. *Elimination of wasteful spending by public bodies or private individuals.*
6. *Planning NOW for post-war, by government and business, to ensure full employment and improving social standards through individual, competitive enterprise.*

Vital Communications

Paper, next to the human voice, is the most indispensable means of communication. Modern business would be stalled without it—without the buy and sell order forms, the payrolls, the memoranda, the blueprints, instructions, records and information that involve the use of paper.

Great savings in the wartime use of this scarce commodity have already been affected by curtailment of less essential paper products, by magazines and newspapers and by the voluntary co-operation of business generally.

But paper saving has to be intensified to make the short supply go round.

All business can help in saving. Here are five questions management should ask about every piece of written or printed matter it uses: Is it necessary? Can lighter paper be used? Can a smaller size be used? Can distribution lists be pruned? Is paper inventory fair?

Here is a set of rules which would help enormously. Use small letterheads and small envelopes for short letters. Standardize on sizes, weights, etc. Review all printed forms periodically for essentiality. Consolidate. Cut out waste space. Use smaller type and margins. Condense letters and memoranda. Use reverse side of incoming letters for carbon copy of reply. Use both sides of mimeographed sheets. Control office paper supplies strictly to prevent waste.

Give Pulp Cutters Priority

Canada's good relations with the United States are going to be very seriously disturbed and at a most critical time, unless Ottawa takes prompt and realistic action to avert a drastic shortage in pulp and paper next year.

Canada is the chief source of paper supply for the U. S. Continued failure to take steps that will avert the crisis will undoubtedly result in acrimonious and hostile comment in America. On the eve of working out the delicate problems of peace, this will be for us a most unfortunate fracas.

Furthermore, such undependability of Canadian supply will certainly weaken Canada's hold on this our biggest single export market and imperil our largest manufacturing industry.

To meet the danger, U. S. manpower authorities have far outstripped the Dominion in taking action. A nationwide campaign to encourage U. S. farmers to cut pulpwood has been undertaken. Recognizing the value of the publishing industry as an instrument in total war and of reconstruction, U. S. manpower authorities have given draft exemption to pulpwood cutters. Indicative of the importance of the men in the woods is the fact that U. S. draft exemption in the publishing industry itself is extended only to editors, managing editors, foreign correspondents and photographers.

In Canada, no such steps have been taken, though pulp cutting operations are short an estimated 20,000 men, if adequate supplies for the paper mills are to be provided in time. Pulpwood cutters are constantly being drained off for Canada's home defense army. Canadian farmers, many of whom would gladly go to pulpwoods in winter, are threatened with losing their status as farmers, hence their draft exemption, if they do, so most of them stay at home.

Canadian and U. S. publishers have considerably reduced their paper consumption and have effected very large savings by elimination of waste. But the crisis that looms is paralyzing. Let's have some prompt, realistic action to avert this quite needless crisis. Draft exemption for pulpwood cutters following the U. S. lead and/or putting this work on a very high priority basis should be arranged at once.

Cartoon by Grassick.

BEAVER GORDON IS GOING TO NEED SOME HELP.

Post-Scripts . . . .

Road Builder

His fellow workers in the department and friends outside weren't surprised when quiet young John David Millar was named recently to succeed, as Deputy Minister of Highways of Ontario, R. M. Smith, who had retired because of illness.

MR. MILLAR

At 36, Millar is Canada's youngest senior highway engineer-administrator.

Some idea of the calibre and character of the enterprise over which he will exercise technical direction, and perhaps some indication of the engineering knowledge, executive judgment, vigor and foresight for which the job calls, is afforded by a glance at the Ontario highway system. This is valued at half a billion dollars. It consists of 73,000 miles of provincial and municipal roads of which 6,000 are paved. Responsibility of over-all supervision of the network — administration, construction, maintenance — makes the Ontario Department of Highways one of the biggest businesses in the province in point of "plant," not excluding the provincial hydro-electric system or the railways.

Born Feb. 24, 1907, on a farm near Brockville, son of the late John Millar and Jessie (Imrie) Millar, John D. Millar graduated in 1930 from Queen's University, Kingston, with an honor degree in science.

Connection with the department began as rodman in the summer of 1923. After a year of municipal surveying, sewer and water works experience in 1929 with Hagey & Gray, Fort Erie, consulting engineers, Millar began continuous service with the department in April, 1930, as an instrument man. In 1932 he was made district engineer of municipal roads at Port Hope and undertook similar duties at Cornwall in 1935 and London in 1937. While at London he married Brenda Evelyn, daughter of the late George W. Morrison, of Brockville. They have one son, John George, 4, born in London.

Member of the Hespeler Gun Club and York Skeet Club, Millar puts himself "a cut above the average, but no top notcher" as a skeet shot. He did hold the eastern Ontario championship at one time. He is also a swimmer, fisherman and golfer of some note. Highways have been his chief hobby, however; in 1923-4 he made a 10,000-mile 6-month Florida-Mississippi valley loop trip and has driven extensively as well in Manitoba, the Maritimes and northern Ontario.

Husky, pipe-smoking, courteous, Millar is a typical engineer. He became assistant engineer at head office of the department in 1939, following amalgamation of the department of highways and northern development. His wartime duties have been as engineering assistant to the Deputy Minister at a time when the department was rushing to completion on war account the Queen Elizabeth Way between Toronto and Niagara Falls, and the Hearst-Geraldton closing link in the Trans-Canada Highway.

• • •

Man Size Job

When Guy E. Hoult succeeded Larry Weldon three months ago as Newsprint Administrator of the Wartime Prices and Trade Board, he had little idea of the troubles ahead of him. At that time the supply of newsprint was not overly great, but the general expectation was that the operators would get by in producing sufficient paper to meet the publishers' requirements, especially those in the United States.

MR. HOULT
—Blank-Stoller photo.

Within three months the situation has changed rapidly and for the worse. The Newsprint Administrator's job has assumed first rank importance. Pulpwood supplies, the raw material for newsprint, have been curtailed and there is likely prospect of a further sharp reduction in publishing operations next year unless more pulpwood is cut this winter. More pulpwood, of course, means more manpower. And where that manpower is to come from is the problem which Guy Hoult has to solve.

All his life Hoult has had to contend with problems, for that is inherent to his profession of a chartered accountant. Born in Montreal around the end of the last century, he joined the firm of P. S. Ross & Sons as a junior in 1915. He became a "C.A." in 1921 and the following year was admitted to partnership in the firm.

His association with P. S. Ross & Sons brought him into intimate contact with the newsprint manufacturing business, for the name of P. S. Ross & Sons appears at the bottom of the balance sheet of many newsprint companies.

His real education along these lines probably didn't occur until after the untimely death of the late Hon. Gordon Scott, senior partner of the firm. When William Randolph Hearst's papers ran up a tidy bill of some $12 millions with the Canadian newsprint suppliers, it became necessary for the operators and the banks to take action to protect their interests. Accordingly Gordon Scott was given the task of being a watchdog on the Hearst papers to protect the interests of the Canadian group. When Scott lost his life through enemy U-boat action, Guy Hoult took over the job.

In this undertaking, the new Newsprint Administrator learned a lot about the ins and outs of the newsprint market and how the Canadian companies did business. It provided him with an excellent background of newsprint knowledge.

• • •

Experienced Paper Maker

A Canadian pulp and paper maker with a broad grasp of production problems has returned from England to assume one of the most important posts in the industry on the Pacific coast—Paul E. Cooper, recently appointed as vice-president and general manager of Pacific Mills, Ltd., one of British Columbia's largest pulp and paper organizations, subsidiary of the vast Crown Zellerbach Corporation.

Until recently Mr. Cooper, although only 43, had been deputy director and general manager of the Thames Board Mills, Ltd., at Purfleet, England, the largest board producing and converting factory in the British Empire, producing all grades of board and converting both into both solid and corrugated containers. He is now in the east preparing to take his wife and family to the coast.

Selection of Cooper for the important executive post with Pacific Mills was made by the board of directors comprising Louis Bloch, C. A. Cotterell, E. W. Hamber, Mayne D. Hamilton, J. H. Lawson, A. B. Martin, C. H. Pim, W. E. Wintemute and J. A. Young.

Canadian-born, Cooper was educated in Ottawa and at McGill University, where he graduated in civil engineering. He is a member of the Engineering Institute of Canada and a member of the McGill Graduate Society.

He has been in the paper business for 20 years ever since he joined the International Paper Company as construction engineer. He participated in International's extensive construction program during the 1920's and in 1929 he was appointed resident engineer of the Piercefield mill of International Paper Co. in northern New York State.

In 1933 Cooper was transferred to the Rumford mill of Continental Paper and Bag Corporation at Rumford, Maine, later becoming manager there. Soon afterward he resigned to join Thames Board Mills in England as chief engineer in charge of the design and construction of a new board mill at Warrington, Lancashire. When the job was completed in 1937 he took over management of the mill.

• • •

A "Royal" Loan

Though Neville C. Tompkins claims there is no financial genius among the family ancestors, a strong predisposition toward finance runs in the family. Two brothers also chose careers in that realm. Neville Tompkins, who was inspector for the Montreal district of the Royal Bank before going to Ottawa is now serving the Wartime Prices and Trade Board as supervisor of its 14 regional and 116 local offices from coast to coast. He brings to the office the experience acquired in the bank and through the wide contacts he has made in his travels for the bank in Canada, West Indies and South America.

MR. TOMPKINS

Born in East Florenceville, Carleton County, New Brunswick, in 1898, Tompkins is one of four boys in a family three generations of which have been born in Canada. His father was Lt.-Col. John Rainsford Tompkins, of the 1st Field Company of Canadian Engineers and a man of many professions. He was soldier, farmer, lawyer and sheriff, the last named for Carleton County.

Woodstock, N.B., is considered by Neville Tompkins to be his home town. There he was educated in the public schools and Rothesay, N.B., Collegiate College. In Woodstock, he entered the services of the Royal Bank in July, 1914, which he has served for 25 years and from which he is on loan to the Board.

In November, 1915, he was given leave of absence from the bank to join the army and served in France with the 26th Canadian Battalion to the end of the war. He was mentioned in dispatches in 1917.

Demobilized in the spring of 1919, Tompkins returned to Woodstock and to the Royal Bank. The following year he went to Halifax, serving in various branches there and later in the supervisor's department. Later he was transferred to Montreal where he served in the Foreign Credits and Canadian Credits department of the head office of the bank. During that period he travelled on inspection trips to the West Indies and South America.

Tompkins' broad shoulders, keen dark eyes and clear complexion combined with an easy approachability, indicate a sportsman. He is a hockey fan and likes a game of golf "when I can get it." He played baseball with the Halifax Wanderers in the early '20's and later with the Montreal Amateur Athletic Association at the time the association won the Montreal City League championship in 1927.

The Postwar World . . .

In this department The Financial Post notes current comment, opinion and research on the world that will face us after the war has been won.

South Africa's Industrial Problem

South Africa, in common with many other countries, is now giving serious consideration to the future of its secondary industries. These have greatly developed during the war because of the general shipping situation, war and home needs, and the dislocation of normal trade and commerce.

"The problem that now faces the country's leaders," says a report from J. C. Macgillivray, former Canadian Trade Commissioner at Cape Town, "is whether or not Union industry can be maintained after the war."

Among manufactured articles produced for the first time in the Union are: Building accessories, including plumbing supplies and builders' hardware; munitions and ancillary equipment of all kinds; machine tools, precision tools; tool steel; cotton products, hair brushes, hospital equipment, electrical apparatus and appliances, fencing wire, tanning and leather trade requisites, dehydrated fruits and vegetables. In addition some older industries which were not functioning on a satisfactory basis, have expanded and are now flourishing. These include paper and paper board, agricultural implements, wool washing, drugs, chemicals, diamond cutting, cereal foods.

"The Union of South Africa," says Mr. Macgillivray, "is the world's leading producer of gold, and the mainstay of the country's economy is based on gold production. It enables payments to be made for merchandise imports which are consistently greatly in excess of exports. It is directly and indirectly the principal source of state revenue and in the same way provides employment for nearly half of the total population."

But industrial expansion to unprecedented levels in the Union during this war presents problems of economic adjustment and decision after the war. "It is desirable," says the report, "that work be available in the Union after the war not only for the existing employees, but also for the thousands of young men and women who are being given technical training in connection with the Union's war effort. There are also advocates of a liberal postwar immigration policy which if put into effect would put the country face to face with the problem of providing employment for still more people."

It is admitted that in the postwar period the marketing of the world's industrial products will present more serious difficulties, and that newer manufacturing countries such as South Africa may find that markets may be lost to the older manufacturing countries who have one or more of the manufacturing benefits of tradition, natural resources, geographical position, or a large home market.

"The steady upsurge of world factory outputs will in a comparatively short time place the newer countries in a position where they will be forced to choose between protection of their infant industries or the abandonment of many apparently promising ventures. Much of all this will, of course, depend upon the manner in which the Atlantic Charter is applied."

If the Atlantic Charter can be put into effect, the report points out, it is extremely naive to expect that relatively unimportant industrial centres will be allowed to foster industries at the expense of the old established manufacturing countries, because it is the latter who will have to bear the burden of finding employment for their own industrial population if a fresh crisis is to be avoided. "In South Africa's case," it is stated, "there is an added and important negative factor in that if those main manufacturing countries continued to purchase South African gold, thus enabling this country to maintain its present economy, it will be very difficult to insist on other benefits, despite any acknowledgment of the indispensability of gold as a medium of exchange."

After dealing with the comparatively limited home market in the Union and the comparative lowness of the normal purchasing power of the bulk of the population, the report states that, "It is apparent that even if it were possible to give local industries all the protection required to give them a monopoly market, the scale of production would be limited by the effective buying public which actually represents about 15% to 20% of the population. In other countries the effective home market usually represents about 60% to 80% of the population, and these population units are the basis of these countries' production efforts."

Other People's Views . . . . . .

Canadian Editorial of the Week

Trade Union Considerations

Winnipeg Free Press

From recent speeches (of Canadian labor leaders) it is apparent that they are willing to jeopardize the whole future of Canadian unionism for the sake of immediate advantages to be gained from compulsory collective bargaining legislation. And in this pursuit of immediate advantage a fundamental right upon which trade unionism is founded is lost sight of. That is the right of a workman to belong to a union of his choice. . . . .

The unions are demanding not only that employers be forced to bargain collectively with them, for which a case can be made, but that the same law forces employers to institute closed shop contracts and provision for checking off dues payments from the pay of the members. Here labor is asking the government to do something which it ought to do itself. If it succeeds in its campaign, it will gain considerable immediate advantage but the ultimate harm that it will do to trades unionism will far exceed the quick gains.

The more we depend upon others the less we depend upon ourselves. The danger in this is that when the time comes for us to defend ourselves and our rights we may have lost the ability to do so.

If an employer and a union decide that there should be a closed shop clause in the contract, or a check-off clause, they can have it. If they decide against it, they can have it that way. If they disagree then in normal times it can be settled in time-honored fashion by a strike. These and a score of other details are things which should be worked out between interested parties. They are not things which should be written into the laws of the country.

When we start codifying everything and restricting the hand of managers in the operation of their business we are flirting with Fascism, for these are manifestations of corporate state thinking. Hitler and Mussolini went through different motions, but in the end result was the same. Management was told whom to employ, at what wages and for what hours. Labor was told where it had to work, for how much and for how long.

By writing a closed shop clause into the law, the right of a workman to belong to a union of his choice goes by the boards. His right also to belong to no union if he does not believe in it is also lost. He must join the union which at the moment has the majority in the shop.

The Mail-box . .

Rumor Squelching

I read with great interest the article "Rumors Can be Squelched" in your number 32. From German pre-Hitler times I remember the political danger of rumor-mongering, but I also remember effective and ineffective methods of rumor-squelching. Some of the examples brought in your article represent rather ineffective methods.

Take the case two. According to the rumor, women working on September 1, can be forced to work at some job or other, while women not working on September 1, are under no compulsion. The denial of this contention has no persuasive power if, as in the example, it is followed by the words: "says the NSS." Whoever denies a rumor has to assume responsibility for the denial. He does not convince anybody by referring to an information which was obtained from the accused agency. It is a good idea that an independent group of private citizens provides for information, but the advantage of independence is lost if the group does not make enquiries of its own and does not stand up for their results.

Take case three, the problem of power shortage. General denials do not convince, but details do. Give figures of the increase of both capacity and consumption, prove your candor and your knowledge and you will impress. And do not destroy the power of facts by combining them with cheap admonitions. The added exhortation takes away too much weight from the facts.

These are examples only. The principles behind them control the total field of public opinion. This letter is not the place to deal with those principles. The point is to understand that success in this field depends on more than organization, good intentions and some technique.

F. E. DESSAUER.

• • •

Food Shortage

I am interested in your article, "Canada Falling Short of Food."

Canada is falling short and will continue to do so at a much greater and faster extent than she has done in the past. Why? Farmers everywhere say we are cutting down production as we have no help and are tired out, so why kill ourselves from overwork when profits are so small.

Barns in this neighborhood are almost empty or only partly filled at the best.

Driving along the roads one never saw so many dirty, weedy, untilled fields. This is not entirely a seasonable thing, but a rapidly growing catastrophe that has overtaken unprofitable agriculture.

I am a dirt farmer and carried on during World War No. 1 and the depression that followed, and am trying to carry on now, but unless there is a great change in government attitude to the farmer, my future production will be of a very limited quantity.

The government is trying to bolster production by subsidies which many farmers feel is a very fickle thing, and we can be left holding the bag at any minute.

The powers that be should know from the rural vote in the provincial election that people are far from being satisfied.

As I see it, the farmers should be on top of the world, for their products are all that keep us going, and are of first importance, so why should the farmer not have a happy, prosperous occupation.

DIRT FARMER.

Wainfleet, Ont.

• • •

Stop Me If . . .

Thinking his son was now old enough to begin to learn the secrets of commerce, the successful businessman started:

"There are two things necessary if you want to succeed, my boy; these are honesty and sagacity."

"What is honesty, father?" asked the lad.

"No matter what happens or how adversely it affects you, always keep your word once you have given it."

"And sagacity?"

"Never give it."

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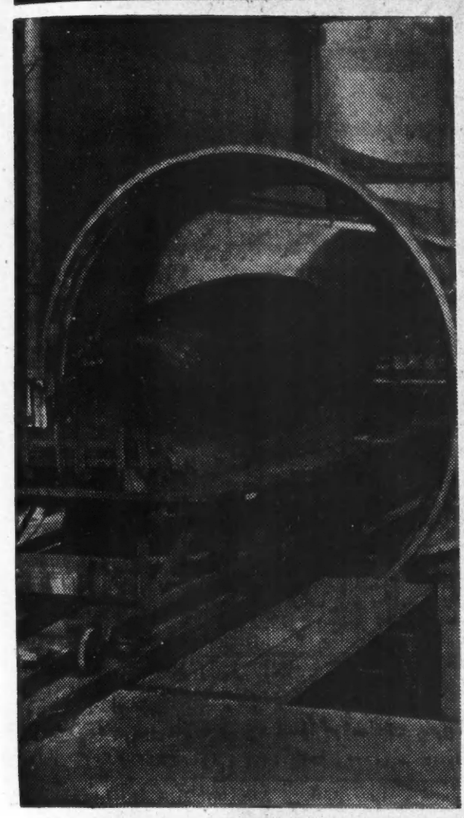
Use Red Pine Plywood to Shape Bodies of Avro-Anson Trainers



Last week, press representatives were shown how moulded plywood airplane bodies are built in the factory of Cockshutt Moulded Aircraft Ltd., subsidiary of Cockshutt Plow Co. at Brantford. Above: some of the 1,000 employees, mostly girls, wrap 1/16-inch veneer strips over a mould or mandrel the exact shape of a fuselage section of the Avro-Anson twin-engined trainer. The veneer is built up to three and, for some parts of the ship, five-ply thickness. Next, body section is placed (left) in heavy rubber bag, pressed under vacuum and heated to about 250 degrees in a 40-ft. tank. The heat liquifies synthetic glue between veneer layers and, in combination with pressure, makes plywood rigid, solid and immensely strong. After removal from heating tank, rubber bag and mould, the bodies, made in three sections, are sanded to glass-like finish, braced inside, covered with "doped" cotton fabric, spray-painted and made ready for shipping to assembly plants. Three-ply veneer usually used consists of two outer layers of Canadian red pine and an inner core of imported poplar. The plywood fuselages can be patched in the same manner and almost as simply as automobile tires are vulcanized. Below, the finished job after assembly of sections.

Grocery Profit Continues Fade Turnover Hit

Freezing of Canned Goods Seen Factor in Dimming Retail Outlook

Further impairment of profit outlook in 1943 for the retail grocery trade is seen by leading storemen as one effect of WPTB food orders issued, or announced as imminent, during the two months that have passed since heads of all consumer business were asked by Chairman Donald Gordon to sell goods below authorized maximum prices so long as overall profits provided a reasonable return or so long as business profits were at pre-war standards.

Recent freezing of canned fruits and vegetables will lessen business and cut further into profits, representatives of the trade tell The Financial Post. Announced relaxation in September of tea and coffee rationing will afford only very limited offset to that loss, it is said. The announced September imposition of rationing of honey, jams, jellies and marmalades won't effect the situation to any appreciable extent because these supplies have been short right along, The Post is told.

Larger operators, most of whom handle fresh fruit and vegetables, are in a position to regain in increased turnover of the latter something of what they stand to lose by the canned goods freeze and, of course, in addition to this, there is the assurance that trade lost in canned goods this summer and fall will be recovered to some extent when the order is removed in the winter. However, the freezing order is generally seen as having the effect of removing "another slice" of anticipated 1943 profit.

Grocers already had lost so many lines, and profit margin on big-turnover staples had been so slim, that a good many hadn't been clearing overhead. Financial statements in general for 1942 had shown increased sales but reduced profits; increasing supply shortages since then had been impairing 1943 prospects. That was the grocery picture painted for The Post when, in June, chairman Gordon addressed his by now familiar personal appeal to Canadian business leaders—chiefly in the consumer goods field—asking them to voluntarily sell goods below authorized maximum prices wherever possible.

Thus in the two months that have passed since the appeal for greater voluntary aid by merchants in the rising battle against inflation, the feasibility of such increased aid, which was questioned at once by many retailers, is said to have been lessened because of measures found necessary by the Board in its own official fight.

New Air Service Is Inaugurated

American Airlines has opened a new Toronto Ticket and Canadian Traffic Office. In order to service traffic handled by American Airlines innovations have been incorporated into the new office. A direct teletype communication system links Toronto with New York, Mexico, Boston, Los Angeles and all intermediate cities on America's far-flung international system and ensures the most rapid clearance of reservation requests and air express movements.

American Airlines has inaugurated the transcontinental all-cargo flights between New York and Los Angeles, according to F. J. Robinson, Canadian traffic manager of American Airlines. American Airlines planes operating from Toronto to New York will make connections at New York.

Montreal Council Plans Wide Postwar Study

From Our Own Correspondent

MONTREAL.—Preliminary work has been completed by the Greater Montreal Economic Council on its study of postwar planning.

Studies have been started and seven committees established to consider public works, public buildings, transportation, railways, subways, traffic and tramways and autobuses.

Allied with the council's work is the committee set up by the City of Montreal to study public works, thoroughfares, housing, zoning, and parks and playgrounds.

Since last April, when the council was formed, a lengthy study has been made of conditions in England and the United States, and the activities and work of similar organizations in both those countries.

Plan Huge Survey

In order to further this work of postwar planning and to give it basic material upon which to work, the council has prepared and will shortly distribute a questionnaire to about 3,000 firms throughout the city.

The answers to this questionnaire are expected to supply a picture of economic conditions as anticipated by individual firms. They will show the present number of employees of each firm, the anticipated postwar size of staff, the time expected to be needed to shift to peacetime production, and the percentage of staff lay-off, if any, each firm anticipates during the change-over.

Report by November

The council hopes to have the 3,000 answers returned and compiled by early November. Then, with a better idea of the form postwar problems will take, steps can be planned to meet them.

The giant survey of anticipated business and economic problems, aimed at supplying a picture of conditions in the area after the war as complete as is possible at this time, is one of the council's most ambitious projects.

The council's master plan is following the suggestion and getting the support of the Canadian Chamber of Commerce and the Federal Committee on Reconstruction. With the help of those bodies the council is exchanging views with other Canadian centres. And through the Chamber of Commerce, an exchange of ideas with the United States centres is being conducted.

Ontario Ass'n. For Forest Aid

Better utilization of provincial forests resources is the objective of a new organization, the Ontario Forests Industries Association, formation of which was made known this week by its president, Hon. W. Earl Rowe.

It was stated that "practical policies based on fire protection, land classification, formation of permanent forest reserves and measures to combat injury from insects and disease will be formulated and proposed by the association."

In making his announcement, Mr. Rowe declared:

"It is the mutual hope of all branches of the varied forest industries that the great possibilities of our forest resources in the postwar years shall be developed."

Wallace A. Delahey, forest engineer and former assistant timber controller of the Department of Munitions and Supply, was made manager of the new association at its organization meeting at which the following officers were elected:

President, HON. W. EARL ROWE, Great Lakes Paper Co.; vice-presidents, K. O. ROOS of J. R. Booth Ltd.; M. COCHRAN of Hammermill Paper Co.

A board of directors comprising members from most Ontario lumber, pulp and paper firms was also set up.

Rail Income At New Peak

CPR and CNR Report 7-months Revenue Up 19.6% Over 1942

From Our Own Correspondent

MONTREAL — Combined gross and operating income of the Canadian Pacific and Canadian National Railways for the first seven months of 1942 totalled $413.2 millions, an increase of 19.6% over 1942 and setting a new all-time record for the period.

Maintenance of record operations this year reflects the continued heavy wartime demand for the railway services. Compared with the depression low point, recorded in 1933 when the seven months gross was $141.6 millions, the rise in combined gross so far this year was $271.5 millions or an amount greater than that shown for the like period in any of the years 1930 through 1940 with the percentage increase being 191.7. Compared with 1929 the increase so far this year was $111.6 millions or 37%.

For the seven months period Canadian Pacific gross earnings this year were $162.8 millions compared with $142.9 millions, an increase of 13.2%. Canadian National gross in the seven months was $250.3 millions compared with $202.5 millions, and an advance of 23.5%.

Trend of Income

Combined gross earnings of the two railways for the January-July period compare as follows:

1943....	$413,189,000	1935....	$162,088,000
1942....	345,507,000	1934....	161,417,000
1941....	286,569,000	1933....	141,633,000
1940....	236,767,000	1932....	160,674,000
1939....	176,889,000	1931....	201,982,000
1938....	169,316,000	1930....	251,307,000
1937....	190,492,000	1929....	301,588,000
1936....	174,379,000	1928....	289,030,000

Silverwood Dairies has purchased the Lindsay Creamery and Flavelles Ltd. plant in Lindsay, Ont. The latter was established in 1904 and the former has been in operation since 1912. H. S. Johnston, former managing director of the Flavelle firms, will continue with Silverwood, being in charge of the Lindsay plant.

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Family Herald — Weekly Star

CANADA'S NATIONAL FARM MAGAZINE

MONTREAL CANADA

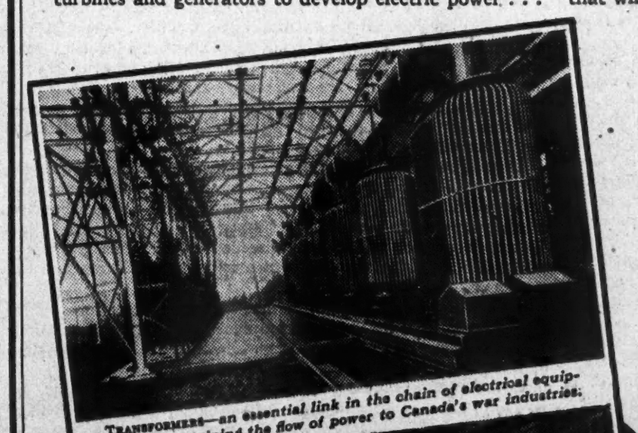
Building Equipment for the

BIG JOB of VICTORY!

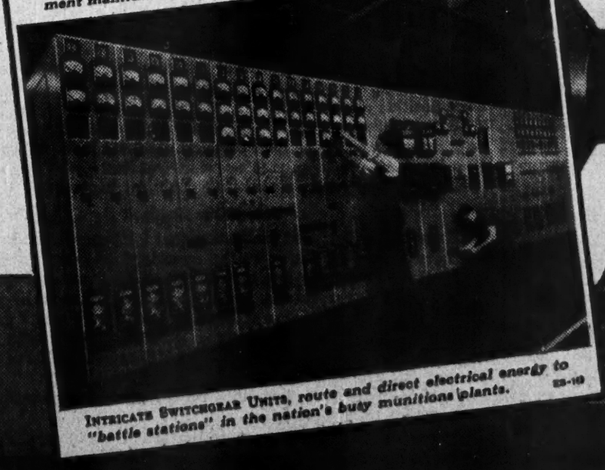
● Canadian General Electric is building a diversity of heavy electrical equipment needed for the big job of Victory . . . equipment to increase the nation's power supply, equipment to distribute and apply this power, equipment with a vital wartime purpose now — but with an equally great and important peacetime future.

From the busy workshops of C.G.E. are rolling mighty turbines and generators to develop electric power . . . massive transformers to keep this power flowing to mines and mills and munition plants, switchgear to control it, and powerful motors to harness it to the lathes and presses that produce the tools of war.

This is big equipment which, while available only for war duty now, is destined to play a valuable part in enriching life for all Canadians in the great days that will follow Victory!



TRANSFORMERS—an essential link in the chain of electrical equipment maintaining the flow of power to Canada's war industries.



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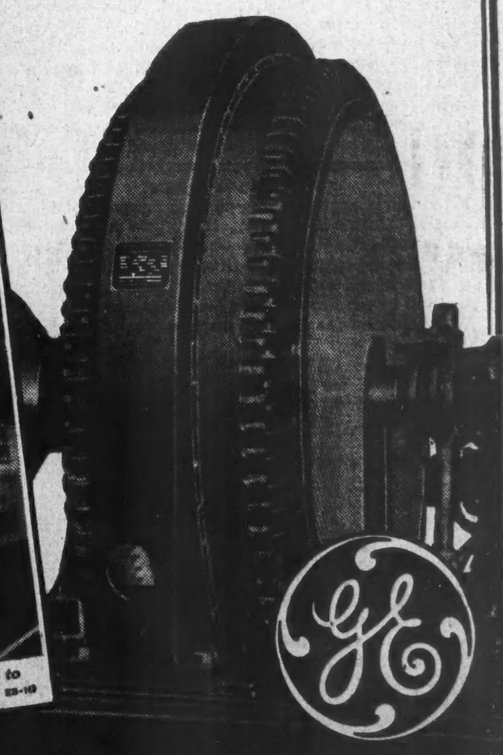


CANADIAN GENERAL ELECTRIC CO. LIMITED

Appraising Newsprint's Future

(Continued from page 1)

of $725,376 at the end of 1936 to a favorable balance of $18.6 millions at the close of last year.

From 1937 to 1942, Abitibi's working capital improved from $5.3 millions to $24.7 millions, after allowing for partial repayment of bonded debt.

Price Bros. and Co.'s working capital advanced from $7.2 millions at March 31, 1937, to $15.6 millions at Dec. 31 last.

Between 1936 and 1942, Canadian International Paper boosted its net working capital from $14.2 millions to $30.4 millions.

All the operators are now paying their fixed charges (with the exception of Abitibi which is still in receivership, though interest is being earned by a wide margin). In many cases dividends are being earned and paid. Some companies are showing earnings on the common stock equity.

With this improvement in mind, the investment possibilities of the newsprint industry should be looked at from two angles—position of the industry for the duration and postwar prospects.

Controls to Stay?

Wartime controls of the industry, apportionment of business, position of the individual company, etc., will be dealt with in detail in a second article. This survey deals only with the outlook from the broad angle of prospective demand, price, competition and technological changes.

For the duration control of newsprint operations is centralized under Government authority. Production will be governed by the availability of manpower, pulpwood, transport, facilities and price. Demand will exceed supply. What the supply will be is difficult to determine, as many of the controlling factors cannot be appraised or determined with accuracy.

For the current year an output of 3,040,000 tons is the goal. This is equivalent to 69% of capacity. While a larger amount could be marketed, it is considered that the industry will do well to maintain production at that level for the duration.

The after-war picture can be brought into focus by considering these factors: Government and other controls, prospective volume of business, price. Inter-allied are competition and technological changes.

Restoration of unrestricted international trading immediately following the war is not expected. Government controls on import of newsprint paper, especially outside the United States, may be exercised for some time during the rehabilitation period. Such restrictions are expected to apply to the United Kingdom, South Africa, Australasia, the Far East and elsewhere.

These markets, while important, are minor outlets for Canadian newsprint. The big outlet for Canadian newsprint is the United States, where restrictions are not expected to apply. From the point of view of the Canadian industry, therefore, controls will not be an overly serious factor after the war.

There are other controls to consider. Before the war a large proportion of the business handled by Canadian mills was pooled on a more or less voluntary basis. Now it is all pooled. Some form of pooling can be expected after the war. Most likely it will be based on pre-war experience, modified by experience of the war years.

World Newsprint Markets

Can Canada maintain her position in the world's newsprint markets? Only 3% of the Canadian output is consumed at home. Operations and earnings of the industry are dependent, therefore, upon a maintenance of position in international trade.

Estimated world capacity of newsprint manufacturing facilities is placed at 10.4 million tons annually. Canada is credited with 4.4 million tons.

For the four years prior to the war, average annual world consumption was 8.1 million tons, leaving an apparent capacity surplus of 2.3 millions tons to take care of growth.

About one half of world consumption is supplied by countries with their own newsprint industries. Many of them, notably the United States, have insufficient capacity to take care of domestic requirements.

To meet this deficiency of four million tons, the world draws upon three principal producing areas—Canada, Newfoundland, Scandinavia. There is also a small miscellaneous trade originating in other areas but which has little bearing on the over-all newsprint picture.

Taking 1939 as a base year, world export trade in newsprint totalled 3,975,000 tons. This was divided as follows: Canada, 2,659,000; Newfoundland, 307,000; Scandinavia, 840,000; and "all others," 169,000.

Breaking the returns down still farther, it is found that of Canadian shipments the United States took 2,200,000 tons; British Isles, 186,000 tons; Australasia, 154,000; Latin America, 67,000, and the balance to China, Japan, South Africa and other countries.

Considering postwar market prospects, continental Europe can be eliminated from the Canadian picture. Outside that area, the principal markets are the United States, the United Kingdom, Australasia, South America, Far East, South Africa, etc.

Canada's Largest Market

The United States consumes nearly half of the world's newsprint production. It takes 70% of the total Canadian output. Because of its proximity and the excellence of marketing arrangements, there is little question of Canada's ability to maintain its position in that market.

Canada's position in that market also is strengthened by the fact that newsprint production in the States is steadily declining, as machines are turned over to the manufacture of other paper products.

Scandinavian and Newfoundland mills will compete for their share of the American market, but they are unlikely to be able to supply more than 20 to 25% of total import requirements.

The balance of Canadian exports—about one quarter of total production—is distributed widely the world over, but principally to the United Kingdom, Australasia and South America.

Restoration of the industry's position in the U. K. and Australia after the war can be taken for granted. What happens in South America and other markets is difficult to judge at this time. The keen pre-war competition in those markets was due to the anxiety of the northern European countries, including Germany, to secure certain essential materials which they did either by cutting prices or by bartering newsprint for other goods.

On balance, however, Canada should be able to maintain her pre-war position in the American, British and Australasian markets. She should be no worse off in the other markets.

Growth in Demand

Next step in appraising the postwar prospects of the Canadian newsprint industry is the prospect for growth in demand. Based on the records of 1929 to 1939, indications do not point to any sharp upswing in world consumption. Growth there will be, but it will not be spectacular and considerable time is likely to elapse before the present gap between capacity and demand is closed.

The demand of the principal markets over this period is set out below:

World Consumption of Newsprint
(In thousand short tons)

	1929	1932	1934	1935	1936	1937	1938	1939
United States	3,796	2,793	3,148	3,272	3,658	4,246	3,088	3,541
British Isles	927	1,000	1,291	1,307	1,379	1,496	1,391	1,250
Japan	231	275	381	428	454	447	420	417
France	389	356	490	435	386	473	374	275
Germany	451	327	391	349	376	332	411	340
Latin America	241	229	287	303	310	309	285	327
Australasia	196	135	181	211	205	186	263	210
Russia	197	125	183	188	216	192	233	200
Canada	185	147	172	186	185	190	200	210
Scandinavia	95	94	101	112	124	125	177	210
Holland	77	94	101	101	96	114	114	114
All others	624	630	705	736	744	802	589	620
	7,319	6,275	7,342	7,628	8,217	8,972	7,555	7,714

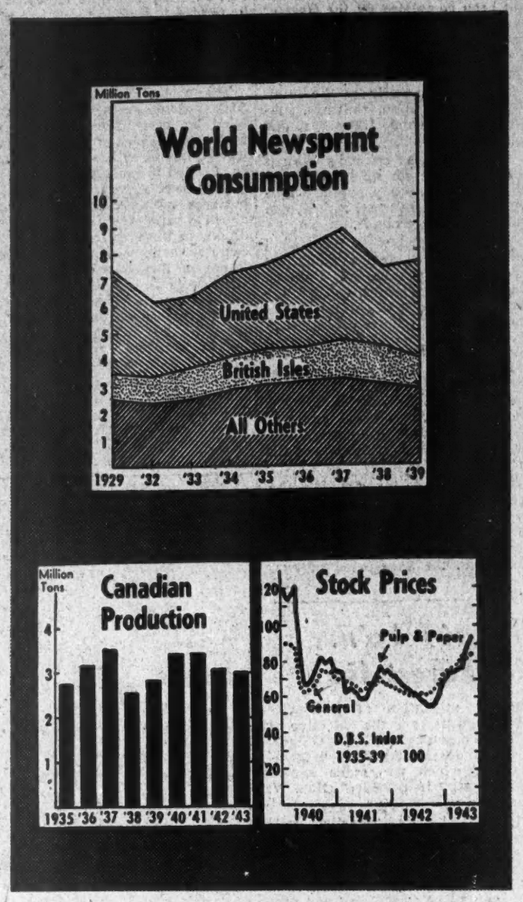
As these figures are based on imports, exports and domestic shipments they do not allow for changes in stocks and, therefore, do not represent actual consumption in any one year although over several years shipments and consumption must balance.

One or two interesting deductions are to be made from this table compiled by the Newsprint Association of Canada.

Probably due to the influence of radio, newsprint consumption in the United States appears to have reached a peak at somewhere around 3.6 million tons annually. The returns for 1937 should not be allowed to mislead. During that year American publishers accumulated stocks far in excess of requirements in anticipation of a price increase.

The United Kingdom recorded a very satisfactory gain over the period, but as per capita consumption in that market is greater than in the United States, not much further growth can be expected. For other English-speaking markets a moderate growth is anticipated.

Per capita consumption of newsprint paper in South America and the Orient is small. It is likely to remain small because a large percentage of the population is illiterate. It is in those areas that the radio can be expected to be the means of keeping the population informed of national and international news. Elsewhere, and especially in the United States, the position of radio is different.



With newsprint topping all manufactured products in the Dominion, Canada's position in the world newsprint consumption picture is a major one. Revealed in the top chart is the level of consumption maintained between 1929 and 1939 by U. S., the British Isles and all other countries, with little expansion indicated during that period. Chart at lower left shows Canadian newsprint production. Estimated current Canadian output is placed at 3,040,000 tons, or 69% of Dominion capacity. As the U. S. consumes nearly half of the world's newsprint production and takes 70% of total Canadian output, the Dominion's ability to hold her place in the world market can hardly be questioned. Chart at lower right, based on DBS Index of Pulp and Paper Securities, reflects the rising trend of stock prices to date in 1943.

Radio Influences Demand

As a means of news dissemination the radio will not supplant the newspaper. This is admitted by the radio people themselves. Further, the gain in newspaper circulation indicates that spot news announcements over the radio, while serving a purpose, do not satisfy public demand for news.

The news coverage provided by a newspaper necessarily is controlled in large measure by the volume of its revenue, especially from advertising. Radio has diverted a large share of the advertiser's dollar away from newspaper and magazines. Newspapers have felt the pinch. Now that radio has reached maturity, it is believed that the distribution of the advertiser's dollar as between radio, magazines and newspapers has reached a degree of stability which will not show any marked change in the years immediately ahead, at least not as marked as in the last 15 years.

On the basis of market position and demand, indications point to Canada maintaining her position in postwar world markets with demand for newsprint reading tending to rise above pre-war levels.

After War Demand

It is possible to gauge this prospective rise, though only in a rough and ready way. Despite restrictions and abnormal trading conditions, Canada's newsprint sales this year will run about 200,000 tons more than in 1939.

This gain is made up of an increase of 300,000 tons in shipments to the States and of about 130,000 tons to Latin America, which more than offsets the drop in trade with the United Kingdom, Australia and elsewhere.

Further Growth Limited

The prospective rise in demand after the war does not necessarily indicate further expansion in productive facilities. There is little inducement for any country to expand its newsprint industry. Many countries now in this field have reached the limit of growth. Moreover, most nations are well aware that wood cellulose is of vital importance to industry of the future and don't intend to waste this valuable asset producing newsprint—the cheapest product that can be manufactured from wood pulp.

Even in those countries which have a newsprint industry, notably the United States, the tendency is away from newsprint into other and more profitable pulp products. For example, Sweden has been concentrating on the production of high grade pulps for several years. Norway is working in the same direction and it would not be surprising if Finland (now probably the most important European newsprint producer) were to follow suit.

Along these lines, it might be mentioned that from time to time reports are current that a newsprint plant is planned in some foreign country to make newsprint from some new material, or that Southern Pine will be a serious competitor in the future.

The Southern Pine venture has turned out satisfactorily, but growth of the newsprint industry in the southern states is not likely to be extensive, as the raw material can be converted into more valuable products.

Moreover Canada's newsprint industry itself is turning more to diversification.

From time to time the investor must expect reports of new plants being planned. They should not, however, be regarded as affecting the basic position of the Canadian industry.

Back in 1940 and 1941 the industry got a taste of what it might do in the manufacture of other products. At that time several machines were turned over to producing what was technically known as a 9pt. corrugating paper; a substitute for kraft paper.

Enter New Fields

There is a widespread realization that for years the industry has not been taking advantage of the opportunities which were on its doorstep. The dividing line between the manufacture of paper and plastics is a very narrow one. Then, too, there are various by-products which can be and are being successfully made from waste materials.

At this time there are two yeast plants utilizing waste sulphite liquor at the Liverpool plant of Mersey Paper Co. and the Thorold plant of Ontario Paper Co.

Ontario Paper Co. is installing a plant at Thorold to make industrial alcohol from waste liquor.

In the allied field of fine papers, Howard Smith Paper Mills is now supplying 95% of the United Nation's needs of vanilla. This is made from a product formerly allowed to go to waste.

These are only the beginnings. Several mills are under way and have made considerable progress in developing cellulose plastics.

Preliminary results have been encouraging and new commercial products of a value considerably greater than newsprint are an after-the-war possibility.

No, it isn't nearly that simple. Before a Bomber is born, hours and weeks, sometimes months of hard won skill is put into a thousand-and-one essential parts in all corners of the land.

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Sicilian Thrust

●Rapier thrust at the heart of Italy, the Sicilian invasion represented the biggest combined operation of land, sea and air forces in all history. Yet, without Canada's contribution of motorized army units and other war equipment, the island's beaches might never have been stormed—the war, itself, would probably have been lost. During the three years struggle for North Africa, Canadian army vehicles kept flowing to the battlefront in a mounting stream. More than half the transports used by General Montgomery in his final desert drive were Canadian built.

If all the 500,000 military vehicles, produced in Canada, were placed in close order the line would stretch 2,000 miles—and Thompson War Workers are proud to have played a part in the building of each of them. At the forefront of the production front, they are fighting at their lathes, grinders and other machines to deliver essential parts for motorized units, aircraft, guns—almost every type of fighting equipment. Each shares a personal sense of responsibility in the making of parts wherein precision is not measured "hair-lines" but by the merest fraction of hairs.

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Single room with bath, $3.50.
Single room with tub and shower combination, $4.00.
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The BANK of NOVA SCOTIA
ESTABLISHED 1832—OVER A CENTURY OF SERVICE

The Bank Act

Big Banks in South Africa

Two Units Control 90% of All Bank Funds in Union

Legislation affecting the commercial banks in South Africa resembles that of Canada in that it is mainly contained in a single act of the Union parliament. This act, passed last year, consolidated two previous acts, the Bank Act of 1917 and the Currency and Banking Act of 1920 and also repealed state legislation carried over into the Union by the self-governing colonies. This article, fourth of a series on bank legislation, discusses some of the important features of the South African legislation.

Banking in the Union of South Africa, as in Canada, is regulated by legislation passed by the federal government. But, whereas in Canada the Dominion is the only jurisdiction by which the banks are regulated, in South Africa up until last year there was also in force considerable legislation which had been passed by the self-governing colonies before the formation of the South African Union. Federal legislation in South Africa was also contained in two different acts. The Bank Act of 1917 with amendments and the Currency and Banking Act of 1920.

New Bank Act

Last year, 1942, however, it was decided to simplify matters and accordingly a new Banking Act was passed. This consolidated and amended previous federal legislation and repealed both the Bank Act of 1917 and the Currency and Banking Act of 1920 as well as bank legislation carried over into the Union by the governments of the Transvaal, Cape of Good Hope, and the Orange Free State. This has greatly simplified the bank legislation situation in the Union. Accordingly, under present conditions, the Bank Act of 1942 supplemented by certain provisions of the Companies Act applying to responsibilities of directors, etc., contains practically all the legislation applying to banks.

Main Features

Some of the main features of the current South African legislation affecting commercial banks are:

They must make returns to the authorities every month of direct assets and liabilities within the Union, and every quarter report fully the number of branches and all liabilities and assets. These returns are published in the Government Gazette at the expense of the bank concerned.

The banks must maintain a fund out of which any losses incurred may be made good or in lieu of this they must insure with an approved insurer against loss by bad debts, etc.

They are subject to the regular Companies Act in regard to duties of officers and directors.

They cannot amalgamate or take over the business of another bank without permission from the Minister of Finance.

They cannot appoint as a director any employee, nor can they use part-time employees, all officers of the bank having to be full-time employees.

They must appoint an auditor, or if large banks, two auditors who will report on the condition of the banks and recommend any changes they believe necessary.

They must co-operate with a registrar appointed by the Union Government with wide powers to inspect the operation of the banks.

They must also maintain in the Union paid up capital and reserves equal to £50,000 plus £5,000 for each branch in excess of five or equal to 10% of their public liabilities whichever is the greater.

Maintain Reserves

They must maintain cash reserves with the central bank, the Reserve Bank of South Africa, of 10% of their demand deposit liabilities and 3% of their notice deposit liabilities.

They have no note issue privileges, these having been delegated to the central bank.

Apart from these main features there does not seem to be as much control of the banking situation as in Canada.

Central Banks

In both countries there is a central bank, the Reserve Bank of South Africa corresponding to the Bank of Canada. But, while the Bank of Canada does not invade the field of the commercial banks, the Reserve Bank of South Africa invades the loan field to some extent with the object of exercising control of interest rates. The Bank of Canada can do this through its open market operations, but in South Africa, with a smaller population and less developed bond market, the central bank evidently finds other measures desirable.

The Reserve Bank of South Africa was established in 1920. It is in charge of the note issue and also holds the reserves of the commercial banks.

As in other dominions, while the banking system generally is distinctively British, certain local characteristics have grown up.

Long-term Credit

For example, while the banks generally regard their main functions as the care of deposits and the granting of short-term loans, there has been a tendency in South Africa in past years to go into the field of long-term credit. This has been done not so much by making loans for a long period as by allowing overdrafts which amount to the same thing.

This practice is more along the lines followed in Australia and New Zealand than in Canada.

One reason may be that with general industry and commerce not so well developed or on such a large scale as in Canada, opportunities for short-term lending have not been so great and the banks have tended to lend on longer terms under the cloak of overdrafts. In recent years, however, the insurance companies have taken over a substantial proportion of the long term business. South African banks too have tended to invade fields of activity not usually touched in Canada. For instance South African banks manage estates, an avenue closed by law to the Canadian banks.

Small Number of Banks

As in Canada the banking business of the country is handled by a relatively small number of banks, eight at last reports. The three largest of these have their head offices out of the Union, two being in London. The third, the Netherlands Bank, formerly had its head office in Amsterdam but since the Nazi occupation of the Netherlands has been carrying on under the direction of a chief official for the country with local offices. Of the eight banks these three control the bulk of the business of the country. For example, in 1936, of £181 millions of funds controlled by the South African banks (S. A. currency), two controlled £174.3 millions and the third £4.8 millions. Consequently the part controlled by the smaller banks is negligible.

Control of the banking business in South Africa, therefore, appears to be much more closely concentrated than in Canada.

Government regulation, however, is not so well consolidated nor so clearly defined as in the Canadian system which while establishing strict banking laws for the protection of the public, also gives the banks a substantial degree of freedom within their established field.

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HIRAM WALKER & SONS LIMITED

Canadian Newsprint Mills Extend Australasian Order

From Our Own Correspondent

MONTREAL — New contractual arrangements have been entered into between Canadian newsprint mills and Australasian publishers. Current long-term contracts have been extended for a further three-year period, that is, to the end of 1948. No additional tonnage is involved, simply the period of the contract extended so as to permit the Canadian mills to make full deliveries under the old contract, shipments having been interfered with by wartime conditions.

Reports from New Zealand say that newsprint shipments in March and April plus scheduled shipments for May are very much more satisfactory than New Zealand has experienced for a long time.

Provided shipments projected for May bring the scheduled tonnage, the reserve position in New Zealand will show a considerable improvement in the allocation of freight space. All 1942 orders for New Zealand have not yet been shipped, according to last reports.

Asnazu Gold Dredging, in the three months to Aug. 1, 1943, handled 1,205,000 cu. yds. of gravel, recovering 6,493 oz. of fine gold worth $227,255, U. S. funds. This compared with $192,395, U. S. funds, in the previous quarter, and $228,795, U. S. funds, in the same quarter a year ago.

City Gas & Electric Plans Reorganization

City Gas & Electric Corp. has called a meeting of the bondholders to consider a plan of reorganization.

Under the proposed scheme holders of $502,800 of bonds will be offered 50 shares of new common stock for each $1,000 held.

Holders of the common will receive one new common stock for each 25 shares held, together with the right to purchase one new share of common at $5 a share within six months after acceptance of the plan.

Provincial Superintendents To Redefine Insurance Terms

The Association of Provincial Superintendents of Insurance has appointed a committee to draft official, definitions for the different classes of insurance. Present definitions, numbering 33 in the eight provinces where the Uniform Insurance Act is in operation, have been in use for 10 years during which there have been great changes in the insurance business and business generally. For example, it was stated the fire coverage had changed greatly while there have been new developments as regards floater and all risk policies. All classes of insurers, tariff, non-tariff, mutuals, etc., were represented at the meeting.

Further reason seen for general revision is that Quebec, which does not have the Uniform Act, has 23 classes of insurance not defined for licensing purposes.

Need Clear Definitions

Need of clear definitions of the classes of insurance is found in connection with company licenses, deposits, statistics and application of the statutory conditions and cover given.

In Feb., 1941, the Dominion Department of Insurance had adopted new definitions almost identical with those submitted in a draft revision by the association in 1940.

G. D. Finlayson, Dominion Superintendent of Insurance, suggested the association accept the Dominion definitions.

Colin Sword said that, with the approval of the Canadian Underwriters Association and the Independent Fire Insurance Conference, it had been suggested to the Dominion Department of Insurance that:

Each company registered by the Dominion be empowered to transact all classes of insurance within its charter,

The department should determine the classes of insurance for which premiums and losses be segregated.

Deposits from companies be based on combined operations and not as at present on individual classes.

Canada Bank Assets Higher

Holdings of Government Bonds Decline But Sterling Assets Rise

Moderate decline in holdings of government bonds is shown in the statement of the Bank of Canada for the week ended Aug. 18, total holdings of long and short-term issues being lower. Sterling assets were up about $12 millions and total assets gained $4.5 millions.

On the liability side, note circulation was higher at $786 millions, with total deposits also up.

Liabilities	Aug. 18 1943 $	Aug. 11 1943 $
Capital paid-up ..	5,000,000	5,000,000
Notes in circulat'n	786,075,779	784,815,039
Rest fund	6,472,953	6,472,953
Deposits: Dom. ..	59,010,304	48,596,834
Banks	292,181,153	295,281,596
Other	21,566,876	24,974,987
Total deposits ...	372,700,334	368,855,418
All other liabs. ..	13,769,408	14,397,854
Total liabs.	1,184,018,474	1,179,541,264
Assets		
In Sterling & U.S.	32,203,341	20,103,341
Subsid. coin	210,907	216,091
Investments:		
Dom. govt. sh. ..	812,201,169	807,116,145
Other Dom. gov.	324,671,363	336,649,378
Total invest.....	1,136,872,532	1,143,765,523
Premises	2,104,559	2,102,023
All other assets .	12,631,074	12,359,286
Total assets	1,184,018,474	1,179,541,264

Staff Changes

The Imperial Bank of Canada announces the following staff changes:

L. S. MacKERSY, manager, Winnipeg, to be general supervisor, head office, Toronto.

W. L. GILLILAND, manager, Calgary, to be manager, Winnipeg.

J. W. McDIARMID, manager, Saskatoon, to be manager, Calgary.

J. D. McGILLIVRAY, manager, Cranbrook, B.C., to be manager, Saskatoon.

MARK COOK, to be manager, Donalda, Alta., to be manager, Cranbrook, B.C.

L. B. GRABAN, manager, Ferintosh, Alta., to be manager, Donalda, Alta.

W. L. M. SISSON, accountant, Weyburn, Sask., to be manager, Ferintosh, Alta.

J. McGREGOR, formerly acting manager, Wetaskiwin, Alta., to be manager, Wetaskiwin.

A. D. LEWIS, formerly attached to head office relief staff, to be manager, Thessalon, Ont.

The Bank of Nova Scotia announces the following staff changes:

N. H. AIRTH, to be acting manager, Port Antonio, Jamaica.

L. R. MONDERIE, to be accountant, Somerset & Bronson, Ottawa, Ont.

B. F. HAYNES, to be accountant, Cochrane, Ont.

Anglo-Nfld. Records Earnings Off in 1942

Anglo-Newfoundland Development Co., which owns and operates a newsprint mill and has a substantial interest in the Buchans mine property, reports operating net profit for 1942 of $292,992. This compares with $542,793 in 1941 and $1,214,661 in 1940.

After interest on debentures, provision for debenture redemption, directors' fees, the company showed a deficit of $70,333. This contrasts with a net income of $530,049 in 1941 and $656,311 in 1940.

Automobile and General Casualty Insurance
Lumbermens
Agency Inquiries Invited
Fire and Allied Lines Written in Associated Companies
"THE SAFETY-MINDED COMPANY"

"You Pays Your Money and You Takes Your Choice . . ."
SINCE long before your grandfather's day, the saying "You pays your money and you takes your choice" has been as Canadian as apple pie. It bespeaks our freedom.
Part of our heritage has been your right to decide for yourself what is best for you and what course you shall take, granting only that you do not infringe the rights of your fellows.
And why not? You know best what you want and need and can afford. And, barring wartime when you gladly accept necessary restrictions, you righteously object when your privilege of self-decision is threatened.
Well, such an effort is now under way. It started some time ago, and is covered with various cloaks. Some of its advocates may be thinking of your welfare . . . others have an axe to grind.
This threat deals with the transportation of everything you eat, wear or use. The effort, if successful, would probably specify what must be hauled by Truck-Trailer, or train, or boat, or plane. Or that the various methods would be limited as to length of haul.
In short, all shipping would fit a "co-ordinated pattern" . . . eliminating the competitive element that has brought about virtually all advancements in our transportation system.
Maybe you think that's unimportant . . . that you don't care how your goods will be shipped . . . that it's something for your grocer, your druggist, your clothier to worry about.
But remember this: Shipping is a part of everything you buy, just as much as the leather in your shoes or the freshness of your milk.
You may prefer economy, at the possible sacrifice of speed and freshness . . . or speed of delivery may justify a higher cost . . . or care in handling may be paramount. Whatever your need, you know it better than anybody else. And you, or your dealer, should have the privilege of selection.
Here's a simple parallel: When you send a message, you can use third-class mail, first class, special delivery, airmail, telegraph or telephone. You weigh the value against the cost . . . and make your selection. And who is the best judge Nobody but you!
Few commodities can be definitely "typed" as to hauling. Steel and coal are widely hauled by Truck-Trailer . . . with excellent reason. Machinery, livestock and other incongruous cargoes travel, in emergencies, by air.
The only real questions are: When and how does the consumer need the shipment? And: What costs will he pay? Obviously, only the consumer knows the answers.
It boils down to this: Our transport system exists solely for the benefit of the public. Transport methods will succeed to the degree that they serve you well. If they serve you poorly, you will pass them by and they will fail.
You pay your money—and you SHOULD get your choice!

"STEEL-ON-RAIL TALKING"

Leading Editorial from The Toronto Daily Star, June 3, 1943.

In its submission to the special committee of the House of Commons on reconstruction and re-establishment, the Canadian Pacific Railway has something to say on government control of transportation after the war. This:

"It must be evident that there should be more complete regulation of highway transportation than existed before the war. It is not suggested that there should be restriction on sound economic growth of this or any other enterprise, but that the nature and direction of this growth should be so controlled that its full development would be encouraged without uneconomic competition with other equally, in some cases even more, necessary enterprises. It is taken for granted that after the war, highway transportation will regain a considerable volume of the traffic it has turned over to the railways as a result of war conditions. It is to be hoped, however, that public policies will be such that the division of this portion of the transportation field can be arranged to the best advantage of the nation by true economic competition, and not by uneconomic and consequently destructive competition."

In other words the C.P.R., and no doubt the C.N.R. as well, want the newer form of transportation restricted by government regulation after the war. Steel-on-rail seeks to handicap rubber-on-road. While the C.P.R. submission repudiates any intention to restrict "sound economic growth," it suggests at the same time that highway transportation should get back only "a considerable volume" of the traffic which war conditions forced it to surrender. In the natural course of events, highway transportation may expect not only to get back what it lost, but to continue the expansion which war scarcities interrupted.

The shipper and consumer have the right to the form of transportation which will serve them best, and if they prefer one which collects goods at the shipping point and lays them down at the consignee's door without transhipment, they are entitled to their preference. If passengers prefer to travel on rubber, that is their right. Artificial restrictions which cripple a newer form of transportation in order to favor an older form of transportation cannot be justified. No doubt the railways will make a fight on this point when the war is over, but this is one form of free competition which should not be subject to artificial manipulation.

PEERLESS TRAILER COMPANY OF CANADA, LIMITED
1310 Bloor St. W. Toronto
567 Montfort St. Montreal
"Engineered Transportation"

THE WEEK'S QUOTATIONS

Montreal and Toronto
Week ending Monday close

Winnipeg and Vancouver
Week ending Saturday close

Quotations here listed are the official stock exchange prices for listed stocks, including curb market quotations. For unlisted stocks, quotations by unlisted dealers are given. The Financial Post cannot accept any responsibility for these quotations.

WEEK ENDING AUGUST 23

Range 1943 High	Low	Div. Aug. 21 R'te	Y'ld	Sales	Last Aug. 16	Week end. Aug. 23 H	L	Aug. 23 C'lse
4.35	.50	-	...	Abitibi	3685	3.25	3¼	21	21
20¼	5	-	...	Do. pref. 6%	2020	27½	27	24½	24½
55	13½	-	...	Do., pf. 7%	95	51	53	53	54
11	6	-	...	Algoma Steel	250	10¼	10½	10¼	10¼
108½	100	5	4.9	Alum. of Can. p	432	102	102	101¼	102
133½	105½	6+2	8.9	Aluminum, c.	729	108½	112½	106	110
30¼	21½	1.50	5.6	Asbestos	648	25	25¼	24¼	24½
20	10	1.35	6.9	Assoc. Brew, c.	15	18	18	18	18
132½	127	8	4.6	Bk. Can. Nat.	32	131½	131	130½	130½
161	147	6	3.8	Bk. Montreal	147	156	158	156	158
259	233	10	3.9	Bk. N. Scotia	8	254	254	254	254
265	230	10	4	Bk. Toronto	57	255	248½	247½	247½
33	21	-	...	Barker's Bd. p.	100	32	30	30	30
15½	12	1	7.4	Bathurst Pr.	260	14½	14	13½	13½
21	11	-	...	Do. (B)	60	21	21	21	21
10¼	14½	-	8.1	Beatty Bros.	100	19½	19½	19	19½
11½	9½	-	...	Beauharnois	193	11	11½	11	11
5¼	4	-	...	Beaver Lumber	28	5	5¼	5¼	5¼
67½	60	4+2	6.8	Belding Cort.	2	87½	87	67	87
180	140½	6	5.2	Bell Telephone	340	156	158	155½	157
9	6½	0.60	7.5	Biltmore Hats	20	8	8½	8½	8½
405½	290	20	5.2	Blue Ribbon, p.	30	404	404	404	404
36	33	1.30	...	Brant. Cord., pf.	5	35½	36	36	36
28½	14½	.75*	...	Brazilian Tr.	3409	25	25¼	24¼	24½
72	5	.50+.10	8.6	Brew & Distil	235	7	7	6½	7
22½	17½	1	4.6	Brit. Amer. Oil	765	22	21½	21¼	21½
34	16	1.50	...	B. C. Packers	588	34	23¼	23	23
29	23	2	6.9	B. C. Power A.	215	28½	28½	28	28½
5¼	2	-	...	Do. (B)	75	3½	3½	3½	3½
10½	5¼	.40	4.7	Bruck S. Mills	205	8¼	8	8	8
17	13	.60	3.6	Building Prod.	865	16¾	16¾	16¼	16½
11½	9½	.60	5.5	Burlington St'l.	225	..	11	10¾	10½
62	21	.10	...	Canada Bread c	680	6¾	7	6¾	7
106½	102	6	5.7	Do., pref.	10	105	106½	106½	106½
83	40	2.50	4.5	Do., Pref. (B)	20	53	53	52	53
81	41	-	...	Canada Cement	250	8	8	7¾	7¾
106½	92	5	4.8	Do., pref.	171	105	105½	104½	105
222	173	20	3.5	C. & D. Sugar	2305	22	22¾	21¼	21¼
27	20	1.50	6.5	Can. Forg. (A)	30	20	23	22¼	23
43	36½	2+.50	5.9	Can. Malting	340	42	43	41	41½
12	5½	.80	5.7	Can. Nor. Pr.	406	10¼	10½	10	10¼
100¾	96	7	7.2	Do. pref.	606	97½	99	97¼	99
150	125	8	5.5	Can. Perman.	5	140	146	146	146
10	9	1.50	...	Can. Starch	43	10	10	10	10
14½	8½	-	...	Can. Steamsh's.	1349	13¼	13¼	12¾	12¾
28	21	2.50	7	Do., pref.	2175	34	36	35	35½
8½	6½	.40+.10	5½	Can. Vinegars	10	8½	8½	8½	8½
85	50	4	6.3	Can. W. Cable	142	62	63	62	63
20	16	.75*	...	Do. (B)	130	18	18½	18¼	18½
120	96½	6.50	5.9	Do. pref.	10	109½	110	110	110
8	2½	-	...	Can. Bakeries	341	4¼	4¼	4¼	4¼
97	88	5	5.8	Do., pref.	60	84	86	84½	85
141	139	6	4.2	Can. Bk. Com.	107	139	140½	139	141
6.00	1.20	-	...	Can. Breweries	2370	4.75	4.87	4.37	4.75
42	37½	3.40	8.1	Do., pref.	50	41	41¼	41	41½
35	32	1.50+.50	6	Can. Bronze c.	365	32½	32½	32¼	32½
22	19	1+.20	5	Can. Can. 1st p.	945	22	23	22¾	22¾
14	10½	.60+.20	6	Do. 2nd pfd.	325	13½	13½	13¼	13¼
9	7½	-	...	Can. Car. & F.	885	10½	10½	9¾	10
31	27	2.10	...	Do., pref. old	500	27½	30	29½	29½
27½	27½	-	...	Do. pref. New	430	..	27¾	27	27½
37¼	27½	1+1	5.4	Can. Celapese	130	37	37¼	37	37
140	132	7+.94e	5.7	Do. pref.	75	140	140	140	140
23	17½	2	7.4	Can. Convert.	35	28¼	27½	27¼	27½
19	15	-	...	Can. Dredge	190	18½	18½	18	18½
10½	8½	.50+.12½	...	Can. G. Inv.	80	10¼	10½	10¼	10½
5½	3½	.10*	...	Can Ind Alc A	265	5¼	5¼	5	5¼
5¼	3½	.10*	...	Do. (B)	50	5¼	5	5	5
160	148	2.50*	...	Can. Indust. B	45	160	165	164	165
26	10	-	...	Can. Locomo.	345	21	21	19½	19½
3¼	1	.04	...	Can. Marconi	1125	2¼	2¼	2	2¼
12½	7½	-	...	Can. Pacific	3913	11¼	11¾	10¾	10¾
12	5	-	...	Can. Vickers	325	6¼	6¼	6¼	6¼
77	25½	-	...	Do. pref.	45	53	53	46¼	46½
45½	39½	2	4.4	Can. West'hse.	30	45½	45	45	45
19½	17¾	1.50+.50	...	C. Wire Box	10	18¼	18½	18¼	18¼
.47	.10	-	...	Chem. Research	1200	25	27	25	25
.45	.15	-	...	City-Gas & El.	500	.25	.25	.25	.25
123	90	10	8.1	Cockshutt Plow	660	12½	13¼	12½	12½
61	51	.25	...	Coll. Terminal	100	53	53	51	53
24	21	.15	...	Com. Alcohol c	200	22	22	21	21
62	51	.40	6.1	Do., pref.	165	53	54	54	54
44	31	.40*	...	Conduits Nat.	25	4¼	4	4	4
15	9½	.80	...	Cons. Bakeries	25	14¼	14¼	14¼	14¼
85	65	-	...	Cons. Div. Sec.	162	20	20	20	20
10¾	6	.75	7.5	Do. pref.	81	10¼	10¾	10	10¼
6¾	3	-	...	Cons. Paper	4385	5¾	5¾	5	5¼
6	3	.40	...	Cons. Press	100	6	6	6	6
146½	137½	1+1.50	5½	Cons. Smelters	1100	144½	145	144½	145
131	121	8	6.1	Consumers' Gas	65	131	131	130½	131
29	27	2	6.9	Consum. Glass	10	28½	29	29	29
25	22	1.20+.15	5½	Cosmos Imp.	50	25	25	25	25
31	22	2	6.5	Crown Cork	5	32	31	31	31
1.00	.50	-	...	Cub Aircraft	450	1.00	1.10	1.00	1.00
41	13	-	...	Dairy Corp.	302	4¼	5	4¼	4½
49	24	2.50*	...	Dom. Bridge	35	40	42	42	42
21	11	-	...	David & Fre.B	25	3	2	2	2
20	11	-	...	De Havilland	10	5¼	4¼	4¼	4¼
90	85	7+3.50e	6.1	Dom. Coal pref.	10	90	85	85	85
38	25½	2.22	6.4	Distill-Seagram	35	35	35¼	35¼	35½
11½	9½	1	4.2	Do., pref.	42	11½	11½	11½	11½
167	142½	8	4.9	Dom. Bank	5	163	163½	163	163
24½	24	1.20	4	Dom. Bridge	390	29¼	29¾	29	29½
18½	10	-	...	Dom. Coal pf.	70	14	14¼	14	14½
91	81	.90	...	Dom. Fabrics	10	9½	9½	9½	9½
23	22	1.50	6.5	Do., 2nd pf.	40	23	22¾	22¾	22¾
30	20½	1+.35	5.2	Dom. Foundries	1038	26¼	26	25¼	25½
155	152	7	4.5	Dom. Glass pf.	20	154	154½	154½	154½
30	24	1.20+.40	6	Dom. Oilcloth	282	29½	30	27	30
3	1½	-	...	Dom. Square	50	2¾	3	3	3
11	9	-	...	Dom. St. & C.B.	1940	9¾	9¾	9	9
10½	5½	.30*	...	Dom. Stores	50	10¼	10	10	10
10	6	-	...	Dom. Tar & Ch	1730	8¼	9	8	8½
103	90½	5.50	5.3	Do., pref.	310	103	102½	102	102
81	74	5	6.4	Dom. Textile	467	75½	78	77	77
155	151	7	4.5	Do. pref.	15	153½	155	155	155
8	2	-	...	Dom. Woollens	505	6	6¼	6	6½
14½	8½	.60	...	Do., pref.	10	12¼	12¼	12½	12½
7½	3½	-	...	Donnacona P.	1395	7	7	6½	6¾
8¼	5¼	-	...	Dryden Paper	280	8¼	8	7¼	7½
25	14	-	...	East Dairies pf.	886	32¼	33	31½	31½
15	12	1	6.7	East Kootenay	5	14½	15	14½	15

Range 1943 High	Low	Div. Aug. 21 R'te	Y'ld	Sales	Last Aug. 16	Week end. Aug. 23 H	L	Aug. 23 C'lse
7	2½	-	...	Easy Washing	5	5½	5½	5½	5½
31	20	1.27½	...	Economic Inv.	20	29	31	30	30
10	5½	-	...	Electrolux	800	9½	9¾	9½	9½
7	3	-	...	Enam. & Heat.	50	5	5	5¼	5¼
30	20	1.87*	...	English Elec. A	30	25	23½	23	23
42	22	-	...	Fairchild Air	125	32	32	32	32
26	21	1.50	...	Fam. Players	175	26	26	25½	25½
28½	21	1.50	6.1	Fanny Farmer	905	28½	28½	25	28
64	31	.25*	...	Fleet Aircraft	775	34	35	34	34
24	19½	1	4.2	Ford Motor A.	885	23½	23½	23¼	23½
168	14	1.40	8.3	Foundation Co.	360	16	15½	15½	15½
20½	12½	-	...	Fraser Co. V. Tr	1110	19	19	17½	17½
11½	7½	.60	6.3	Gatineau Pwr.	10	9½	10	10	10
100	86	5	5.5	Do., pref.	125	92	95	94	94½
100½	86	5.50	5.5	Do. 6½% pref.	60	90	90	90	90
13½	11	1	4.7	Do. pref.	647	12½	12¾	12½	12½
109½	94	7+.65e	7	Do., pref.	50	109	109½	109	109½
95	62	2.50+2.50	6	Goodyear T.	95	86	89	86	86
58	51½	2.50	...	Do., pref.	405	56	56	56	56
61	32	-	...	Gt. Lakes Pap.	675	6	6	6	6
61	34	-	...	Do. Vot. tr. c	148	44	44	44	44
23	14½	1.50	...	Do. Vot. tr. p.	160	21	21	20	20½
74	34	-	...	Gt. W. Sadd'y c	150	58	57	54	54
35	36½	5	9.2	Do., pref.	5	32½	32	32	32
128	101	.60	4.9	Greening Wire.	25	12½	12¾	12½	12½
7	4½	-	...	Gypsum, Lime.	927	7¼	7¼	6¾	7
9	4½	-	...	Ham. Bridge	1060	7¼	7¼	6¾	6¾
38½	33	2	5.7	Ham. Can., pf.	2483	35	35	35	35
16½	14	1	6.2	Hinde & Dauch	50	16	15½	15¼	15½
93	91	-	...	Holt Renfrew p.	4	93	92	92	92
16½	12	-	...	H. Smith Pap.	520	15½	15½	15½	15½
105	96	6	5.7	Do., pref.	205	106	105	105	105
12½	7	0.50	4.9	Hunt's (B)	25	12½	12	12	12
13	8½	.80	...	H.&E. Mt. 20%p	100	10¼	10½	10¼	10½
180	157	8	4.9	Imperial Bank	51	180	180	180	180
17½	11¾	.50	3.1	Imperial Oil	7391	17	17¼	16	16½
12½	10	.40+.15	5	Imperial Tob.	1700	12	12½	11¾	12
7½	6¼	-	...	Do., pref.	695	7	7¼	7	7
10	9½	.50+.10	6	Imp. Varnish	10	9½	9¾	9½	9½
21½	13	4.25	...	Indust. Accept.	50	20	21	21	21
101½	82	5	5.6	Do., pref.	35	90	90	90	90
23	18½	1.50	6.5	Inter. Bronze p.	205	23	23	23	23
100	90	6	6	Int. Metal Ind p	35	99	99	98½	98½
100	100	6	6	Do., pref. A.	385	100	100	98	98
11½	11½	1.50	5	Int. Mill., p.	130	11½	115	114½	115
39½	32	2	5.8	Int. Nickel	1821	38	35¾	35¼	35½
24	17	1	4.5	Int. Pete	6004	23½	23¼	22¾	22
15	6	-	...	Int. Power	10	10	11	11	11
109	95	7	6.5	Do. pref.	55	107	108	107½	108
14	3½	-	...	Int. Util. (A)	117	11¾	9¾	9¼	9¾
14	10	-	...	Kelvinator	113	14	14	14	14
18½	10	-	...	L. St. John Pr.	112	16	16	16	16
26½	19	1.20	4.9	L. of Woods, c.	95	25½	26	25	25
128	119	7	5.5	Do., pref.	34	128	128	128	128
13½	9½	.80	6.2	Laura Secord	655	13	14½	13	13
27	22	1+.25	5.9	Lindsay (A)	160	23	23½	22½	22½
21½	17½	1+.25	5.9	Do. (B)	980	20½	21	20½	21
20	15½	1	5.2	Maclaren Pr.	160	19	18½	18½	18½
9½	4½	-	...	Maple Leaf M.	250	7	7¼	7	7¼
17	10½	-	...	Do. pref.	225	14½	15	14½	14½
11.75	7.40	1.20	*10.1	Marlene	1,135	11.25	11.25	11.20	11.20
.01¼	.00½	-	...	Brett Trdg.	10,500	.01¼	.01¼	.01¼	.01¼
.72	.46	1.06	...	Broulan	24,300	.65	.67½	.65	.65½
1.60	1.02	1.10	...	Buffalo Ank.	2,963	3.25	3.30	3.00	3.00
.09	.03½	-	...	Buff. Can.	1,000	.06	.06	.05	.05
18.00	11.00	-	...	Helo Gold	300	17.50	17.50	17.50	17.50
.03½	.01½	1*	...	Bunker Hill	4,000	.04	.03½	.03½	.03½
.65	.35	1.02	...	Can. Mal.	800	.62	.62	.60	.62
1.35	.82	1.06	...	Cariboo	550	1.20	1.25	1.19	1.25
1.35	.54	-	...	Castle Tre.	5,409	1.15	1.20	1.15	1.17
.06	.02	-	...	Cen. Cad.	10,600	.03½	.03	.03	.03
1.74	1.00	.12	7.7	Cen. Pat.	3,300	1.80	1.80	1.65	1.65
1.14	.07½	-	...	Cen. Pat.	14,400	.10	.10½	.09	.09½
.06½	.02½	-	...	Century	500	.08	.06½	.06½	.06½
2.14	.65	1.03	...	Chesterville	54,907	1.75	1.75	1.51	1.51
2.68	1.75	-	...	Chromium	105	2.65	2.68	2.68	2.68
1.43	.75	1.06	...	Cochenour	29,308	1.37	1.43	1.30	1.41
1.50	.80	1.08	...	Coniaurum	1,400	1.17	1.18	1.15	1.15
.73	.50	1.03	...	Delnite	1,000	.68	.73	.70	.72
.04½	.03	-	...	Denison	6,000	.04	.04½	.04½	.04½
25.75	18.75	1.60	6	Dome Mines	967	24.60	25.50	24.50	24.50
.10	.04	-	...	Duquesne	2,500	.08	.07	.07	.07
1.70	1.09	-	...	East Mal.	34,950	1.50	1.50	1.47	1.49
1.62	.80	-	...	Eldorado	18,725	1.48	1.52	1.40	1.40
4.80	3.10	1.07½	...	Falconbridge	1,300	4.30	4.50	4.10	4.10
.07½	.02½	-	...	Federal	10,100	.05½	.06	.05½	.05½
.35	.16	-	...	Francoeur	3,700	.31	.32	.30	.31
.09	.03	-	...	Gillies Lake	2,100	.06½	.07	.06	.06
.29½	.12½	-	...	God's Lake	7,400	.18½	.18½	.17	.17
.15½	.10	-	...	Goldale	2,700	.15½	.15½	.13½	.13½
.17	.13	-	...	Gold Belt	500	.18	.17½	.17½	.17½
.05	.02	-	...	Gold Eagle	4,000	.04½	.05	.03½	.03½
.15	.03	-	...	Golden Gate	71,000	.12	.12½	.09	.12½
.03½	.01	-	...	Goodfish	6,000	.02½	.02½	.02	.02
.07	.02½	-	...	Grull W.	4,500	.03	.03	.02½	.02½
.34	.11½	-	...	Gunnar G.	2,000	.20	.21	.18	.19½
.07	.01	-	...	Hasaw	5,740	.04½	.05	.04	.05
.07½	.04	-	...	Hallwell G.	134,500	.04½	.04½	.04	.04
3.75	2.80	.40	12.3	Halinor	100	3.55	3.25	3.25	3.25
.60	.40	.06	11	Hard Rock	12,000	.59	.58	.55	.55
.04½	.02	-	...	Harker	3,200	.04½	.04½	.04½	.04½
.32	.13	-	...	Hasaga	1,000	.31	.34	.32	.32
.48	.34	.08	...	Hedley Mas.	12,000	.35	.37	.32	.32
11.50	8.50	.65	5.9	Hollinger	1,888	11.25	11.25	10.87	11.12
.00½	.00½	-	...	Home Gold	8,000	.00½	.00½	.00½	.00½
.29	.17	-	...	Howey Gold	5,150	.29	.28	.28	.28
32.50	26.50	2.00	6.3	Hudson Bay	721	31.00	31.25	30.87	30.75
.20	.12	-	...	Inspiration	1,100	.20	.20	.18	.20
.08	.01	-	...	Jacobus	2,600	.01½	.02	.02½	.02½
.10	.06	-	...	Jack Waite	4,000	.07½	.07½	.06½	.07½
.24	.12	-	...	Jason Mines	2,500	.21	.22	.21	.22
.09	.01	-	...	Jellicoe	5,550	.04	.05	.04	.04½
.02½	.00½	-	...	J. J. Cons.	22,557	.02½	.02½	.02	.02
.06	.01	-	...	Joliet Que.	100	.05	.05	.03	.03
8.15	4.75	1.22	...	K. Addison.	9,470	7.75	7.80	7.65	7.70
.08	.02½	-	...	Kirk. Gold	7,167	.08	.07	.07	.07
.80	.55	1.02	...	Kirkland L.	10,700	.78	.78	.74½	.75
.35	.19	-	...	Kootenay B.	3,900	.35	.35	.34	.35
1.40	.40	1.02	...	L. Dufault	9,200	1.21	1.25	1.10	1.15
16.25	10.25	.80	5.3	Lake Shore	3,320	15.37	15.50	14.75	15.00
5.90	3.50	.30	5.2	Lamaque G.	1,127	5.75	5.80	5.75	5.75
.09½	.03½	-	...	Lapa Cad.	8,075	.07	.07	.06½	.06½
.04½	.01	-	...	Lebel Oro.	16,000	.04½	.04½	.03½	.03½
1.13	.60½	.09	*8.1	Leitch Gold	16,910	1.05	1.07	1.02	1.04
1.00	.67	-	...	Little L.L.	9,200	.70	.75	.74	.74½

Mining Stocks

Week Ending August 21

Range 1943 High	Low	Div. Aug. 21 Rate	Yield	Company	Sales	Last Aug. 16	Week Ending Aug. 23 High	Low	Close
.21	.05	-	...	Aldermac	19,100	.19	.20	.18½	.19
4.95	3.00	-	...	Anglo-Hur.	948	4.95	5.00	4.80	4.80
.63	.30	-	...	Aquarius	2,000	.60	.60½	.60	.60½
.33	.22	-	...	Arjon	44,925	.29	.29	.25	.25½
.53	.35	-	...	Armistice	18,600	.41	.43	.40	.40
.03	.00½	-	...	Arno	2,000	.02	.02½	.02½	.02½
.03½	.02	-	...	Ashley	1,000	.05	.04½	.04½	.04½
.12½	.02½	-	...	Astoria Que.	8,675	.07½	.08	.07	.07
3.00	1.35	1.13	...	Auner Gold	14,896	2.90	3.00	2.87	2.90
.19½	.08½	-	...	Bagamac	7,100	.15	.15½	.15	.15
.15	.04	-	...	Bankfield	30,233	.11	.13	.11	.11½
.17	.07	-	...	Base Metals	5,500	.15	.14	.13	.13
.08½	.03	-	...	Bayonne	5,080	.04	.03½	.03½	.03½
.49½	.10	-	...	Bear Expl.	18,000	.37	.38	.35	.35½
1.36	.69	1.04	...	Beattie G.	25,400	1.25	1.36	1.23	1.25
.63	.09½	-	...	Bidgood	276,471	.47	.47	.30	.31½
.12	.08	-	...	Bobjo	5,000	.10	.10½	.09½	.09½
.12	.03	-	...	Bonetal	3,733	.22	.22	.20	.20
2.10	1.38	.12	6	Bralorne	1,135	11.25	11.25	11.20	11.20
3.25	1.85	.30	9.3	Brett Trdg.	10,500	.01½	.01½	.01½	.01½
.10	.05	-	...	Broulan	24,300	.65	.67½	.65	.65½
.97	.60	1.03	...	Buffalo Ank.	2,963	3.25	3.30	3.00	3.00
.18	.09	-	...	Buff. Can.	1,000	.06	.06	.05	.05
.74	.35	-	...	Helo Gold	300	17.50	17.50	17.50	17.50
1.75	.95	1.10	6.4*	Bunker Hill	4,000	.04	.03½	.03½	.03½
6.90	4.35	1.10	...	Can. Mal.	800	.62	.62	.60	.62
5.80	3.40	1.50	...	Cariboo	550	1.20	1.25	1.19	1.25
.03½	.01	-	...	Castle Tre.	5,409	1.15	1.20	1.15	1.17
.24	.10	-	...	Cen. Cad.	10,600	.03½	.03	.03	.03
.04	.02	-	...	Cen. Pat.	3,300	1.80	1.80	1.65	1.65
.04	.01	-	...	Cen. Pat.	14,400	.10	.10½	.09	.09½
.08½	.06	-	...	Century	500	.08	.06½	.06½	.06½
.27	.09½	-	...	Chesterville	54,907	1.75	1.75	1.51	1.51
2.68	1.75	-	...	Chromium	105	2.65	2.68	2.68	2.68
1.43	.75	1.06	...	Cochenour	29,308	1.37	1.43	1.30	1.41
1.50	.80	1.08	...	Coniaurum	1,400	1.17	1.18	1.15	1.15
.73	.50	1.03	...	Delnite	1,000	.68	.73	.70	.72
.04½	.03	-	...	Denison	6,000	.04	.04½	.04½	.04½
25.75	18.75	1.60	6	Dome Mines	967	24.60	25.50	24.50	24.50
.10	.04	-	...	Duquesne	2,500	.08	.07	.07	.07
1.70	1.09	-	...	East Mal.	34,950	1.50	1.50	1.47	1.49
1.62	.80	-	...	Eldorado	18,725	1.48	1.52	1.40	1.40
4.80	3.10	1.07½	...	Falconbridge	1,300	4.30	4.50	4.10	4.10
.07½	.02½	-	...	Federal	10,100	.05½	.06	.05½	.05½
.35	.16	-	...	Francoeur	3,700	.31	.32	.30	.31
.09	.03	-	...	Gillies Lake	2,100	.06½	.07	.06	.06
.29½	.12½	-	...	God's Lake	7,400	.18½	.18½	.17	.17
.15½	.10	-	...	Goldale	2,700	.15½	.15½	.13½	.13½
.17	.13	.06	4.8	Weston, Geo., c	200	162	162	162	162
.81	.34	-	...	Winnipeg El. A	1094	74	74	74	74
.62½	.20	-	...	Do. pref.	115	58	57	55	55
.64½	.09	7	8.2	Wood, A&J p.	35	84½	84½	84½	84½
.95	.95	-	...	Woods Mfg. p.	35	95	95	95	95
.18	.12	.80+.20	...	Zellers	30	171	171½	171	171
36½	34	1.50	5.7	Do., pref.	500	361	361	361	361

• Participating.
• Interim dividends paid in 1943.
• On arrears. † Initial.
• Net after corporate income tax.

Oil Stocks

Range 1943 High	Low	Div. Aug. 21 Rate	Yield	Company	Sales	Last Aug. 16	Week end. Aug. 23 H	L	Aug. 23 C'lse
4.00	2.20	1.12	...	Magnum	2,945	3.00	3

Dividends Declared

	This payment $	Date payable	Date of record
Anglo-Can. Tel. "A"	.15	Sept. 1	Aug. 10
Alum. of Can., pfd.	1.25	Nov. 1	Oct. 1
Aluminium	2	Sept. 5	Aug. 12
Do., pref.	†1.50	Sept. 1	Aug. 5
Amew Surpass	.40	Sept. 1	July 31
Do., extra	.20	Sept. 1	July 31
Do., pref.	1.75	Oct. 1	Aug. 31
American Cyanamid	†.15	Oct. 1	Sept. 11
Do., pfd.	†.12½	Oct. 1	Sept. 11
Asbestos	.20+.10	Sept. 30	Sept. 1
Amor Gold	.05	Sept. 1	Aug. 6
Banque C. Nat.	1.50	Sept. 1	Aug. 14
Bank of Montreal	1.50	Sept. 1	July 31
Bank of Nova Scotia	2.50	Oct. 1	Sept 13
Bank of Toronto	2.50	Sept. 1	Aug. 14
Barber Ellis, c.	.12½	Sept. 15	Aug. 31
Bruck S. Mills	.10	Sept. 15	Aug. 13
Bathurst Pr.&P. A	.25	Sept. 1	July 30
Bolding Cort.	.1	Oct. 1	Aug. 31
Do., pref.	1.75	Oct. 1	Aug. 31
Borden Co.	1.30	Sept. 1	Aug. 4
B.C. Packers	.75	Sept. 15	Aug. 31
Bright, T. G. pf.	1.50	Sept. 15	Aug. 31
Canada Cement	1.25	Sept. 20	Aug. 25
Can. Crush. Stone	.10	Sept. 15	Sept. 1
Can. Dom. Sugar	.20	Sept. 1	Aug. 14
Canada Dry	†.15	Sept. 9	Aug. 26
Can. Foundries A	.37½	Sept. 15	Sept. 1
Canada Malting	.50	Sept. 15	Aug. 16
Can. Nor. Power	a.15	Oct. 25	Sept. 20
Do., pref.	a1.75	Oct. 15	Sept. 20
Can. Perm. Mtge., c.	2.00	Oct. 1	Sept. 15
Can. Vinegars	.10	Sept. 1	Aug. 16
Can. W. & C. C.A.	1.00	Sept. 15	Aug. 31
Do., C.B.	.25	Sept. 15	Aug. 31
Do., pf.	1.62½	Sept. 15	Aug. 31
Can. Cottons	1.00	Oct. 1	Sept. 3
Do., pfd.	1.50	Oct. 1	Sept. 3
Can. Food Prod.	.50	Oct. 1	Sept. 15
Can. Industries	1.25	Oct. 30	Sept. 30
Do., 7% pf.	1.75	Oct. 30	Sept. 30
Can. Gen. Elec.	.2	Oct. 1	Sept. 13
Can. For. Invest. c.	a1.30	Nov. 1	Oct. 1
Can. For. Inv., pf.	a2	Oct. 1	Sept. 1
Can. Ingersoll-R., c.	.75	Sept. 4	.....
Can. Int. Inv. Tr., p.	.50	Sept. 1	Aug. 2
Can. Breweries, pf.	.85	Oct. 1	Aug. 16
Capital Wire	.38	Sept. 1	Aug. 12
Central Patricia	.02	Sept. 30	Aug. 31
Can. Bakeries, pfd.	1.25	Sept. 1	July 31
Consumers Glass	.50	Aug. 31	July 30
Corr. Paper Box, pd.	1.75	Sept. 1	July 31
Dairy Corp.	1.25	Oct. 1	Sept. 15
Distillers Corp.	.55½	Sept. 15	Sept. 1
Do., pfd	a1.25	Nov. 1	Oct. 15
Dom. Foundries, p.	1.50	Sept. 1	Aug. 10
Dom. Env. pf.	1.75	Sept. 1	Aug. 20
Dom. Sect. Inv. pf.	.50	Sept. 1	Aug. 2
Dominion Stores	.10	Sept. 20	Aug. 25
Dominion Tar	1.37½	Nov. 1	Oct. 1
Dominion Textile	1.25	Oct. 1	Sept. 3
Do., pfd.	1.75	Oct. 15	Sept. 15
Eng. Electric	.25	Sept. 15	Aug. 31
Eastern Steel	.25	Sept. 1	Aug. 14
Economic Invest., c.	.62½	Oct. 1	Sept. 1
Fanny Farmer, c.	†.37½	Oct. 1	Sept. 11
Federal Grain, pf.	2.00	Sept. 1	Aug. 20
Federal Pet., c.	.01½	Sept. 28	Aug. 31
Ford of Can. c. A, B	.25	Sept. 18	Aug. 28
Four Star Pete., c.	.01	Sept. 28	Aug. 31
Gatineau Power	.15	Sept. 30	Sept. 1
Do., 5% pfd.	1.25	Oct. 1	Sept. 1
Do., 5½% pfd.	1.37	Oct. 1	Sept. 1
Gen. St. Wares c.	.25	Sept. 20	Aug. 23
Hallnor Mines	.10	Sept. 1	Aug. 6
Ham. Cotton, pfd.	.50	Oct. 1	Sept. 15
Ham. Un. Theat., p.	1.25	Sept. 30	Sept. 15
Hollinger, c.	.05	Sept. 9	Aug. 26
Hudson's Bay, ord.	4% +1½%*	‡	July 21
Imperial Tob.	.10	Sept. 30	Sept. 14
Do., pf.	3%	Sept. 30	Sept. 14
Imperial Varnish	.12½	Sept. 1	Aug. 20
Do., pref.	.37½	Sept. 1	Aug. 20
Inter City Bak. c	.75	Sept. 30	Sept. 14
Inter. Bronze	.20	Oct. 15	Sept. 15
Do., pf.	.37½	Oct. 15	Sept. 15
Inter. Nickel. com.	†.50	Sept. 30	Aug. 31
Invest. Found.	.75	Oct. 15	Sept. 15
Jam. Pub. Serv.	.17	Oct. 1	Aug. 31
Do., pfd.	a1.75	Oct. 1	Aug. 31
Kerr Addison G.	.05	Aug. 28	July 30
Lake Shore Mines	.20	Sept. 15	Aug. 16
Lamaque Gold	.10+.10	Oct. 1	Aug. 31
Langley's pref.	a.50	Sep. 11	Sep. 3
Do.	a.50	Dec. 11	Dec. 3
Lake of Woods M.	.50	Sept. 1	Aug. 2
Do., pref.	1.75	Sept. 1	Aug. 2
Laura Secord	.20	Sept. 1	Aug. 2
Loblaw Groc. A.B.	.25	Sept. 1	July 30
Loblaw Groc., Inc.	†.25	Sept. 1	Aug. 14
Macassa	.06	Sept. 15	Aug. 31
Maclaren Pwr.	.25	Aug. 31	Aug. 14
Mackinnon S., p/d	1.25	Sept. 15	Aug. 31
McKenzie R. L.	.02½	Sept. 17	Sept. 1
McKenzie Red L.	.02½	Sept. 17	Sept. 1
Montreal Loan	.31¼	Sept. 15	Aug. 31
Massey Harris pfd	.62½	Sept. 15	Aug. 14
McIntyre Pore.	.55½	Sept. 1	Aug. 2
Mont. Cottons 7% p.	1.75	Sept. 15	Aug. 16
Mont. Cottons, c.,	1.00	Sept. 15	Aug. 16
National Grocers, p.	.37½	Oct. 1	Sept. 1
Neon Products	.30	Aug. 28	Aug. 14
Niagara W. Weav.	.25	Oct. 1	Sept. 8
Noranda Mines	1	Sept. 15	Aug. 13
Northwest Util. p.	1.50	Sept. 1	Aug. 26
N.S. Light & Pr., p.	1.50	Sept. 1	Aug. 14
Ogilvie Flour	.25	Oct. 1	Aug. 30
Do., pref.	1.75	Sept. 1	July 30
Ont. Steel Prod.	.25	Nov. 15	Oct. 15
Do., pref.	1.75	Nov. 15	Oct. 15
Ottawa Elec. Rly.	.50	Oct. 1	Sept. 1
Ottawa L. Pr.	.15	Oct. 1	July 9
Do., pref.	1.25	Oct. 1	July 9
Page-Hersey, c.	1.25	Oct. 1	Sept. 15
Paton Manfg Co.	1	Sept. 15	Aug. 31
Do., pref.	1.75	Sept. 15	Aug. 31
Perron Gold	a.02	Sept. 30	Aug. 31
Photo Engravers, c.	.25	Oct. 1	Sept. 15
Preston E. D., c.	.05	Oct. 15	Sept. 15
Price Bros. pf.	1.37½	Oct. 1	Aug. 30
Proprietary Mines	.05	Sept. 6	Aug. 9
Provincial Bank	1.25	Sept. 1	Aug. 14
Power Corp., pfd.	a1.50	Oct.15	Sept. 20
Do., 2nd pfd.	a.75	Oct. 15	Sept. 20
Regent Knit., pfd.	.40	Sept. 1	Aug. 3
Do.,	.40	Dec. 1	Nov. 3
Reliance Grain, p.	1.62½	Sept. 15	Aug. 31
Do., pref.	1.50	Aug. 16	Aug. 16
Royal Bank	1.50	Sept. 1	July 31
Royal Crest., c.	.01	Sept. 28	Aug. 31
Second Cdn. It. Iv., p.	.10	Sept. 1	Aug. 14
Second Cdn. It. Iv., c.	15	Sept. 1	Aug. 14
Siscoe Gold	.01½	Sept. 15	Aug. 12
Stuart, D. Oil, pf.	20+25	Sept. 1	Aug. 14
Silverwood D.	.20	Oct. 1	Aug. 31
Do., pref.	.20	Oct. 1	Aug. 31
South Can. Pwr. pd.	a1.50	Oct. 15	Sept. 20
Stand. Fuel, pfd.	1	Oct. 1	Sept. 15
Do., arrears	1	Oct. 1	Sept. 15
Stedman	.15	Oct. 1	Sept. 20
Do., pf.	.75	Oct. 1	Sept. 20
Sunset Oils	a.01	Sept. 15	Sept. 1
Sylvanite, c.	.03	Oct. 15	Sept. 1
Teck-Hughes Gold	.10	Oct. 1	Aug. 31
Tip Top Tailors	.07½	Oct. 1	Sept. 1
Do., pfd.	1.75	Oct. 1	Sept. 1
Toronto Elev., p.	.65½	Sept. 7	Aug. 24
United Grain, A	1	Sept. 1	July 31
Do., B	.25	Sept. 1	July 31
United Fuel A	.75	Oct. 1	Sept. 10
Upper Can. Mines	.02½	Aug. 28	Aug.14
Vulcan-Brown, c.	.01	Sept. 28	Aug. 31
Waite Amulet	.20	Sept. 10	Aug. 10
Wr.-Hargreaves	.07½	Oct. 1	Aug. 26
Walker H. Good	1	Sept. 15	Aug. 13
Do., pref.	.25	Sept. 15	Aug. 13
Weston Geo., c.	.20	Oct. 1	Sept. 4

†N. Y. funds. aSubject to approval of Foreign Exchange Control Board.
*Distribution from land sales account; not subject to income tax.
‡Payable date to be announced later.
▲Subject to Jamaican Inc. Tax (30%).

Weekly Bank Clearings

	Aug. 19 1943 $	Change year ago %	Aug. 12 1943 $
Halifax	4,046,428	+30.9	3,872,656
Saint John	2,638,828	+17.6	2,798,658
Moncton	1,146,136	+1.6	1,105,232
Sherbrooke	1,089,262	—7.0	1,276,709
Quebec	6,012,769	+0.5	5,488,109
Montreal	186,089,164	+34.2	133,070,653
Ottawa	57,640,573	+34.8	89,883,353
Kingston	772,300	—2.7	849,547
Peterborough	1,004,801	+19.6	.....
Toronto	177,075,191	+25.4	126,483,933
Hamilton	9,627,875	+37.6	5,704,479
St. Catharines	1,784,183	+32.4	1,157,150
Kitchener	1,538,918	+15.1	1,258,364
Brantford	1,182,520	+5.9	973,454
London	2,960,169	+7.9	2,775,347
Chatham	615,846	+5.0	613,908
Windsor	4,807,506	—5.7	3,845,390
Sarnia	891,992	+49.9	780,450
Sudbury	1,170,714	+24.7	1,011,106
Fort William	1,193,676	+8.1	1,212,926
Winnipeg	65,355,997	+69.4	70,091,742
Brandon	619,959	+17.4	583,169
Regina	6,858,528	+61.6	7,531,513
Moose Jaw	1,004,703	+33.8	949,297
Saskatoon	2,080,036	+19.4	2,210,021
Prince Albert	620,390	+26.2	643,895
Calgary	8,185,384	+17.4	7,842,067
Edmonton	6,877,175	+43.1	7,886,602
Lethbridge	911,848	+38.8	843,526
Medicine Hat	417,634	+36.6	509,913
N. W'minster	1,091,410	+35.8	924,314
Vancouver	31,708,906	+31.3	24,140,660
Victoria	2,215,521	+3.6	1,907,160

DIVIDEND NOTICES

Hollinger Consolidated Gold Mines Limited

DIVIDEND NUMBER 374

A regular dividend of 1% has been declared by the Directors on the Capital Stock of the Company, payable on the 9th day of September, 1943, to shareholders of record at the close of business on the 20th day of August, 1943.

Dated the 19th day of August, 1943.

P. C. FINLAY, Secretary.

DIVIDEND NOTICES

FORD MOTOR COMPANY OF CANADA, LIMITED

DIVIDEND No. 63

The Board of Directors has declared a cash dividend of twenty-five cents ($.25) per share on all of the outstanding shares of the company payable on September 18, 1943, to shareholders of record at the close of business August 28, 1943.

G. G. KEW, Secretary.

Windsor, Ont.
August 18, 1943.

Gatineau Power Company

Notice of Dividend on 5% Cumulative Preferred, 5½% Cumulative Preferred and Common Shares.

Montreal, Canada, August 18, 1943.

The Board of Directors has declared a quarterly dividend of $1.25 a share on the 5% Cumulative Preferred Shares and $1.37 a share on the outstanding 5½% Cumulative Preferred Shares of the Company payable October 1, 1943, to shareholders of said classes of record at the close of business on September 1, 1943; also a quarterly dividend of Fifteen cents ($.15) a share on the outstanding common Shares of the Company payable on September 30, 1943, to shareholders of said class of record at the close of business on September 1, 1943.

Cheques in payment will be mailed. Stock transfer books will not close.

J. R. BINKS, Secretary.

PRESTON EAST DOME MINES, LIMITED

(No Personal Liability)

DIVIDEND NO. 16

NOTICE is hereby given that the regular quarterly dividend of five cents per share has been declared on the issued Capital Stock of the Company, payable in Canadian funds, October 15th, 1943, to shareholders of record at the close of business on the 15th day of September, 1943.

By Order of the Board.

L. I. HALL, Secretary.

Toronto, August 18th, 1943.

Broulan Porcupine Mines, Limited

(No Personal Liability)

DIVIDEND NO. 10

Notice is hereby given that an Interim Dividend of Three Cents per share in Canadian funds has been declared on the issued Capital Stock of the Company and will be paid (less deductible taxes) on September 30th, 1943, to shareholders of record August 31st, 1943.

By Order of the Board.

D. R. MICHENER, Secretary.

Toronto, Ontario, August 24th, 1943.

Canadian Car & Foundry Company Limited

DIVIDEND NOTICE—PREFERENCE STOCK

Notice is hereby given that a dividend of fifty-two cents ($2c) per share on the Paid up Preference Stock of the company for the quarter ending Sept. 30th, 1943, has been declared, payable on the 11th day of Oct., 1943, to Shareholders of record on the 21st day of Sept., 1943.

By Order of the Board,

A. C. BOURNE, Secretary.

Montreal, August 23rd, 1943.

Sylvanite Gold Mines, Limited

(No Personal Liability)

TO SHAREHOLDERS AND HOLDERS OF SHARE WARRANTS:

NOTICE OF DIVIDEND NO. 82.

TAKE NOTICE that a regular quarterly Dividend of 3% (i.e., three cents per share) on the outstanding Capital Stock of the Company, payable in Canadian funds, has been declared as Dividend No. 82.

Such Dividend will be payable October 15th, 1943, in respect of the shares specified therein upon presentation and delivery of Coupon No. 82 at:

The Canadian Bank of Commerce, Toronto, or any Branch of said Bank in Canada (far Northern Branches excepted), or Liberty Bank of Buffalo, Buffalo, N.Y.

By Order of the Board,

W. S. WALTON, Secretary.

Toronto, August 18th, 1943.

CANADA PERMANENT MORTGAGE CORPORATION

Notice is hereby given that a Dividend of TWO PER CENT. on the paid-up Capital Stock of the Corporation has been declared for the current quarter, and that the same will be payable

Friday, the First Day of October

next, to Shareholders of record at the close of business on the Fifteenth day of September 1943.

By order of the Board.

Walter F. Watkins, Secretary.

Toronto, August 18th, 1943.

PETER CORPORATION OF CANADA, Limited

The Board of Directors has declared this day the following dividends.

6% First Cumulative Preferred Stock

No. 73, quarterly, $1.50 per share.

6% Non-Cumulative Participating Preferred Stock (Par value $50)

No. 65, quarterly, 75c. per share.

Payable October 15th, 1943, to holders of record at the close of business September 30th, 1943.

L. C. HASKELL, F.C.I.S., Secretary.

Montreal, July 22nd, 1943.

Winnipeg Wheat Markets

Harvest is Started in West

Need Continued Good Weather to Fulfill Crop Promise

Harvest is in full swing over a large part of the West, although in considerable areas in the northern parts of Alberta and Saskatchewan much of the crop will not be sufficiently mature for cutting until the end of August, and some not until later. Those are areas, generally speaking, where the promise of the crop is good, but where a continuance of good weather will be necessary for the promise to be fully realized. Some threshing is going on, but only a small part of the crop as threshed can be delivered to elevators, on account of prevailing congestion.

Farmers last week delivered a total of 3,200,000 bushels of wheat, but probably the greater part of this was old crop. For the first three weeks of the crop year, since, August 1, farmers delivered slightly over 6 million bushels of wheat, and more than twice that quantity on other grains. On the whole, they are showing a preference to dispose of coarse grains rather than wheat. Prices for the latter, standing at ceiling levels, are recognized as being at the maximum, with no hope of later improvement. With wheat, however, the rise in price since last April leads many farmers to hope that further advances will yet occur. Moreover, coarse grains require a greater space to store, either in respect of area harvested, or the value of grain held, and if grain has to be stored on the farm for later sale, farmers much prefer to store wheat.

The fairly steady level held by wheat prices on the Winnipeg market for a considerable time has resulted in a theory developing as to the relation of prices at Winnipeg and at Chicago, where they have also been fairly constant. It is that buyers in the U. S. are willing to take on Canadian wheat whenever it is sufficiently cheaper than American wheat to enable it to be imported over the duty of 42c. per bushel. Allowing for some addition to the duty on account of transportation costs, and applying the exchange differential as an offset, there is sufficient correspondence between the two price levels to make the theory plausible. It must be employed cautiously, for actually Canadian wheat is not kept out of the U. S. by the tariff duty. It is a quota system, amounting to almost, but not quite, complete prohibition which keeps Canadian wheat from flowing in commercial channels to the U. S.

Ignores Tariff Costs

The large importations now being made are the result of purchases by an agency of the U. S. Government, which has no need to take the tariff duty into account in calculating its costs, any more than it takes it into account in establishing prices at which Canadian wheat is sold for feed in the U. S. And certainly the correspondence between markets at Winnipeg and Chicago is far from complete. For while at Winnipeg the October future stands at a higher price than wheat for May delivery, at Chicago the distant future is at a carrying charge, although not a large one, as compared with the nearby future.

Transportation Troubles

The relationship between October wheat and May wheat on the Winnipeg market is a reflection of the transportation and handling difficulties which now beset the wheat trade. Holders of October wheat, if they wish to continue holding wheat for a long pull, have for some time been able to transfer their holdings for May delivery at no cost for carrying charges, and even at a premium. Strange as it may seem to speak of a scarcity of Canadian wheat, there is actually a scarcity in deliverable position in terminal elevators at the head of the lake, where less than 15% of the Canadian visible supply is concentrated. There is apparently not enough there now, and in prospect of being there soon, to fill the requirements of those who hope to move wheat down the lakes in the near future. And consequently there is a tightness so far as the October delivery is concerned.

Terminal Elevators Soon Full

Scarcity of labor has made it impossible for some time to unload railway cars of grain as rapidly as the railways are capable of delivering them, if they can secure prompt return of empties. Nevertheless, if lake shipping continues scarce, the terminal elevators themselves may before long be filled with grain, while temporary annexes built two years ago remain largely unused. The latter were emptied out to a considerable extent at the beginning of the current navigation season. They can be used to advantage only in storing No. 1 and No. 2 Northern, and only when such grain is to remain in store for some time, because of the cost of transferring it into and out of annexes. Once the elevators themselves are filled, the question will arise as to whether the empty space in annexes can be economically used for grain which may be required for shipment down the lakes before the close of navigation next December.

The Business Of Farming

By GORDON L. SMITH

Higher farm produce prices have turned the eyes of many city men towards the country. Some of these townsmen have a vague idea that they could possibly make big money out of a farm investment. The movement is more pronounced in the United States where produce prices have risen more steeply than in Canada, though real estate brokers report that there is also a considerable growth in such farm sales to city buyers in this country also.

A writer in Barron's throws some cool water on these ambitions and rightly advises the greatest caution. This writer points out that there are cases of city men making a great deal out of some farm investment but that there are many others, not so publicized, where just the opposite has been true.

Gross Profit Deceiving

To the casual observer and especially if he has a strong desire to own a place in the country, current prices for almost any line of farm produce look attractive. But this observer is inclined to forget that farm selling prices do not represent net profits. There is a substantial cost of production to be figured. Labor costs are high, and also those for farm equipment, feed and fertilizer. In a great many cases, and this applies to mixed farming especially, not all the raw feed materials are grown on the farm. And there is also the very considerable risk of pests and diseases to be taken into account, and the long, unprofitable wait until livestock or orchards come into production.

The average city person generally underestimates woefully the skill required to operate an average farm. Pigs, cows, chickens, fruit trees and grain crops do not grow unassisted. They require careful handling and even then they suffer discouraging losses. Constant war must be waged against pests. Rabbits and mice destroy fruit trees, bugs and fungus attack the foliage, and worms the fruit. Cattle will get sick just like human beings, and are subject to the same risk from epidemics.

Even with the best of care and under the most favorable soil and climatic conditions it will take from 10 to 15 years to bring an apple orchard into bearing. Soils must be studied. Some are suited to some crops but entirely unsatisfactory for others. Some are worthless unless expensively underdrained. And finally over practically all types of farming looms the constant risk of unfavorable weather.

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Conveniences

With one or two exceptions farms in the various provinces of Canada are fairly evenly supplied with automobiles and radios. With the exception of Quebec, about 35% of Canadian farms boast an automobile although this percentage is almost doubled in Ontario. As for radio installation, Dominion census figures just released indicate the lowest percentage in Quebec and the highest in Alberta, with British Columbia, Saskatchewan, Manitoba and Ontario just behind. Half the farms of Ontario have telephones installed, which is the best showing in Canada and the percentage drops to under 20 for over five of the other provinces.

In the installation of electric lighting, Ontario, British Columbia, Nova Scotia and Quebec have a great lead over the other provinces with B. C. and Ontario right at the top.

Comparative details are as follows:

	Electric lighting %	Automobile %	Radio %	Telephone %
P. E. I.	5.5	20.2	53.0	17.1
N. S.	26.2	29.6	58.7	25.8
N. B.	16.6	27.3	48.6	16.0
Que.	23.6	16.4	36.4	15.8
Ont.	37.3	69.6	66.3	50.8
Man.	7.3	48.6	66.8	24.1
Sask.	4.8	45.2	71.5	32.2
Alta.	5.5	46.7	72.9	18.1
B. C.	36.0	35.4	69.3	19.2

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Look at Abandoned Farms

In eastern Canada alone there are between 12,000 and 13,000 abandoned farms. These involve about 1.5 million acres and most of them have been idle for many years. The authorities have been making studies of these farms to determine whether a portion of them can be salvaged and used for land settlement purposes after the war.

In some cases these farms have been abandoned for purely personal reasons and they are considered economic projects if properly handled. Most of them, however, have been given up for purely economic reasons in which case it would be a most doubtful proposition to reclaim them.

Land settlement schemes following the first Great War proved that it is very unsatisfactory to dump prospective farmers on unimproved property. There is much heavy work, loneliness and general privation, in clearing land and making it fit for farming, when undertaken by an individual. If on the other hand sizeable blocks of already cleared farms can be obtained through reclamation of abandoned farms, or if machinery can be used on a wholesale scale for preliminary clearing then the settler could start immediately on his chosen profession which is farming and not pioneering.

DIVIDEND NOTICES

NOTICE OF DIVIDEND

Famous Players Canadian Corporation Limited

NOTICE is hereby given that a dividend of Twenty-five Cents (25c) per share has been declared on all issued common shares of the Company, without nominal or par value, payable on Friday, the 1st day of October, 1943, to shareholders of record Wednesday, the 15th day of September, 1943.

By Order of the Board.

N. G. BARROW, Secretary.

TORONTO, August 24th, 1943.

The Great West Saddlery Company Limited

6% Cumulative First Preference Stock ($50.00 Par Value)

6% Cumulative Second Preference Stock ($50.00 Par Value)

A dividend at the rate of six per cent (6%) per annum, being the accumulated dividend for the three months ending September 30th, 1943, on the First and Second Preference stock, has been declared and authorized to be paid on October 5th, 1943, to all First and Second Preference Shareholders of record with the Transfer Agents of the Company at the close of business on September 4th, 1943.

By Order of the Board.

J. C. BROADFOOT, Secretary.

Winnipeg, Man.,
August 20th, 1943.

MacKinnon Structural Steel Co. Limited

DIVIDEND NOTICE

Notice is hereby given that a quarterly dividend of one and one-quarter (1¼%) per cent has been declared on the 5% Cumulative Sinking Fund Redeemable Preferred Stock of MacKinnon Structural Steel Co. Limited, payable September 15th, 1943, to shareholders of record August 31st, 1943.

By Order of the Board of Directors.

J. G. SCORER, Secretary.

Montreal, August 20, 1943.

Dominion Textile Co. Limited

Notice of Common Stock Dividend

A DIVIDEND of One Dollar and Twenty-five cents ($1.25) per share, has been declared on the Common Stock of DOMINION TEXTILE COMPANY, Limited, for the quarter ending 30th September, 1943, payable 1st October, 1943, to shareholders of record 3rd September, 1943.

By order of the Board,

L. P. WEBSTER, Secretary.

Montreal, August 18th, 1943.

Dominion Textile Co. Limited

Notice of Preferred Stock Dividend

A DIVIDEND of One and Three Quarters per cent (1¾%) has been declared on the Preferred Stock of DOMINION TEXTILE COMPANY, Limited, for the quarter ending 30th September, 1943, payable 15th October, 1943, to shareholders of record 15th September, 1943.

By order of the Board,

L. P. WEBSTER, Secretary.

Montreal, August 18th, 1943.

MACASSA MINES, LIMITED

(No Personal Liability)

DIVIDEND NO. 33

NOTICE is hereby given that a dividend of six cents (6c) per share has been declared on the issued capital stock of the company for the quarter ending September 30th next, and will be payable on September 15th to shareholders of record August 31st, 1943.

By Order of the Board.

L. SOLIAGUE, Secretary.

Toronto, August 18th, 1943.

Since 1857

James Richardson & Sons LIMITED

Grain Merchants
Shippers and Exporters

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McCabe Bros. Grain Co. LIMITED
Winnipeg, Canada

CANADA'S MOST COMPLETE GRAIN SERVICE
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DULUTH MINNEAPOLIS PORT ARTHUR REGINA EDMONTON

DOUBLE RECLEANED AND RECLEANED WESTERN
OATS...
All Grades Feed BARLEY
SAMPLE WHEAT
BULK or SACKED
Barley Meal

All Grain Selected from Our Elevators in the Finest Growing Districts of Western Canada

Prompt Shipment from Fort William
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FEDERAL GRAIN LIMITED

OPERATING TERMINAL ELEVATORS - PORT WILLIAM - PORT ARTHUR - VANCOUVER
436 COUNTRY ELEVATORS THROUGHOUT THE WEST
113 COAL SHEDS

Our Service and Facilities Guarantee Satisfaction

HALLET & CAREY LIMITED

GRAIN - STOCKS - BONDS
Exporters - Grain Futures

Head Office — WINNIPEG, Man.
Branch — FORT WILLIAM, Ont.

The Week in Business

		July	June	May	Apr.	Year Ago
Financial Post Production Index		....	254.9	256.5	257.3	211.5
National income, D.B.S. (c)		....	†752	†752	†737	649
Dom. war expend. (million $)		264.2	256.3	272.2	136.9	145.0
Dom. total revenue (do)		283.0	198.8	205.1	177.3	121.8
Dom. total expend. (do.)		496.9	322.0	325.0	169.5	345.5
Dept. store sales index no.		....	130.6	138.6	153.4	134.1
Retail sales index no.		....	155.3	154.5	163.3	151.1
Wholesale sales index no.		....	174.8	163.6	163.8	167.6
Country store (% change pr. yr.)		....	+14.9	+13.8	+14.5	+14.6
Divd. payment index‡		124.3	123.5	122.7	122.0	122.6
Bank deposits (1935-39=100)		....	....	171.0	163.0	167.6
Cash and cheque pay. index		....	171.3	215.7	162.3	148.8
Bank debits (1935-39=100)		....	147.5	163.0	156.6	127.7
Money supply (c)		....	4,883	4,727	4,536	3,675
NEWSPRINT % OF CAPACITY—						
Production ratio		....	69.6	68.6	62.0	65.6
Shipment ratio		....	73.7	69.6	65.9	69.4
RAILWAY FREIGHT LOADINGS—						
Tons (D.B.S. index)		190.3	214.5	190.6	201.6	188.1
Cars (D.B.S. index)		148.0	147.0	142.5	144.1	141.4
COST OF LIVING—						
D.B.S. index		118.6	118.5	118.1	117.6	117.9
EMPLOYMENT INDEX No. D.B.S.—						
All industries		....	181.1	178.2	180.6	171.7
Manufacturing		....	234.1	232.9	224.3	205.9
Payrolls (June 1/41=100) (b)		....	143.6	139.8	144.3	128.3
Payroll index (a) (1937=100)		....	....	223	224	197
RAILWAYS—		1943	1943	1943	1942	Change %
				Jan. 1 to date		
▲Carloadings (week Aug. 14)		70,534	64,345	2,100,335	2,092,056	+0.3
▲C.P.R. gross (week Aug. 14)	$	5,921,000	4,980,000	177,544,000	152,685,000	+2.7
C.N.R. gross rev. ... (June)	$	32,360,000	31,789,000	210,486,000	169,415,000	+24.3
▲C.N.R. net rev. ... (July)	$	8,696,000	7,732,000	53,631,000	45,751,000	+12.5
C.P.R. gross rev. .. (June)	$	24,698,217	21,244,686	136,231,531	121,033,092	+12.5
C.P.R. net rev. ..... (June)	$	4,421,437	4,174,365	21,203,162	21,948,083	—3.4
IRON AND STEEL—(June)—						
Pig iron production (tons)		147,889	167,961	867,789	974,000	—10.9
Steel production .. (tons)		239,561	254,163	1,486,153	1,550,238	—3.9
CONSTRUCTION—						
Contracts awarded (July)	$	16,166,900	32,093,400	118,293,700	167,040,600	—29.2
▲Building permits .. (July)	$	9,697,625	10,977,733	44,964,923	61,970,026	—9.2
Cement prod., bbls (May)		705,344	789,828	2,174,353	2,393,443	—9.2
AGRICULTURE—						
Flour prod., bbls. . (June)		1,855,461	1,335,177	12,139,615	9,725,208	+24.8
Cattle sales .. .... (July)		77,361	85,024	573,737	609,853	—6.1
Hog sales .. .... (July)		550,362	461,034	3,733,641	3,808,743	+3.5
SEA FISHERIES—						
Catch cwts. .... (June)		1,089,752	992,079	3,685,576	4,417,285	—16.6
Landed value ..... (June)		5,711,877	3,716,970	14,816,993	10,453,840	+41.8
NEWSPRINT—						
Production, tons ... (June)		257,845	242,762	1,443,670	1,658,174	—12.9
Exports, tons ..... (June)		252,833	236,611	1,360,992	1,520,287	—10.4
MINING AND OILS—						
Coal prod., tons ... (June)		1,346,851	1,386,432	8,853,962	9,469,709	—2.9
Gold rec. (fine oz.) (June)		298,416	398,695	1,917,911	2,370,188	—19.1
▲Petroleum prod., brl. (June)		826,119	856,746	5,037,870	5,240,038	—3.6
ELECTRIC POWER OUTPUT—(June)—						
Total monthly 1,000 kw.h.'s		3,355,033	3,043,200	19,624,395	19,612,384	+3.4
OTHER INDUSTRIAL FACTORS—						
Shoes, prod., pr. ... (June)		2,830,719	2,991,123	17,402,629	16,493,270	+5

We Have Been Asked . .

The Financial Post will provide subscribers as quickly as possible the answers to specific questions about business, taxation, investments, wartime regulations and other subjects. The Post cannot undertake to make predictions, will not express opinions on matters involving individual business judgment or on conditions or investments outside Canada. All communications should be addressed to Business Enquiry Editor, The Financial Post, 481 University Ave. A four-cent stamp and address label from subscriber's copy of The Financial Post must be enclosed.

INCOME TAX

New Machine Depreciation

I am a doctor. In 1939 I bought a second-hand X-ray machine for $400. In succeeding years, down to 1942 I wrote off depreciation totalling $160 altogether. This spring I sold the old machine and bought a new one for $1,070. Where do I stand as regards depreciation on it? Do I take into account the $160 written off the old machine?

No. You make a fresh start taking only the new machine into account. The rate of depreciation you are entitled to write off can be determined by consultation with the income tax authorities in your district.

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Winnipeg Electric

What is the position as regards income tax of money received under payments on the contingent certificates of Winnipeg Electric Co?

It is understood these payments are taxable in the hands of the recipient. Under the terms of reorganization of the financial structure of the company, in 1935, the contingent certificates are regarded as issued in payment on income account rather than principal.

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Deduction for Children

I am a married man with two small children. Am I allowed deductions for the children for income tax both as regards normal and graduated tax or just graduated tax?

You are allowed a deduction for each child of $28 on normal tax and $80 on graduated tax.

INVESTMENTS

McColl-Frontenac

Will you outline for me (a) the general position of McColl-Frontenac Oil Co. and (b) the earnings position of the company's preferred shares?

The McColl-Frontenac Oil Co. is engaged principally in the refining and distribution of petroleum products throughout Canada. It also carries on production operations on leases held in Trinidad by a subsidiary. The development of oil properties is, however, a very minor part of the company's business. Oil leases have been obtained in Canada also, but no production of importance has so far resulted.

The principal assets of the company consist of two well-equipped refineries at Toronto and Montreal, 13 marine terminal storage plants, two or three marketing bulk terminals, 635 service stations, and tankers and tank cars. In addition, the company acts as supplier to 3,500 independent dealers.

The record of the company gives no concrete indication that it will not, in the future, be able to maintain its position in the Canadian field. Earnings of $11.41 a share were shown on the preferred stock in 1942, being below those in any pre-war year except 1937 and 1939.

In 1941 the company planned to build an additional refinery at Calgary, but was prevented due to inability to obtain the necessary equipment.

The preferred stock, on which dividends have been paid regularly since 1938, is callable on any dividend date, and at thirty days' notice, at 105 plus dividends.

Investors Syndicate

Will you please bring me up to date on the S.E.C. action against Investors Syndicate and how purchasers of contracts in Canada may be affected?

The Securities and Exchange Commission, Washington, was unsuccessful in its attempt to secure a court order restraining Investors Syndicate and its U.S. affiliates from carrying on business in the United States, and court hearings on the various charges made by the Securities and Exchange Commission have now been held over until Oct. 5.

The Canadian firm, Investors Syndicate of Canada Limited, is a wholly-owned subsidiary of Investors Syndicate, and is not directly affected by the Securities and Exchange Commission charges, although it is naturally interested in the outcome.

Allegations made by the Securities and Exchange Commission against the United States organization included the charge that certificates of "inferior grade and value" were unloaded on investors by Investors Syndicate when the original certificates sold "began to become valuable to the owner and a burden to the company," and that if certificate holders had accepted one exchange offer, interest yield would not have been 4½ to 5½%, but 2.36% or less.

In denying the restraining order against Investors Syndicate and its associates, Judge Nordybe did not pass on the charges made, but merely concluded that no open and shut case had been made for tying up the individual's holdings.

The Canadian firm is required by law to keep on deposit sufficient assets to cover all liabilities, and we are informed that there has been no "run" to realize on Canadian contracts.

Chaput Copper

Some months ago I purchased some shares in Chaput Copper Mines, whose shares I saw advertised in The Financial Post. Can you tell me what the company has been doing since then?

Chaput Copper Mines has been securing some interesting results in diamond drilling, and is now reported giving consideration to enlarged development, and possible construction of a 100-ton smelter at Webbwood close to the company's property if further results warrant.

Since financing was carried out by a sale of treasury shares earlier this year, five series of three shallow diamond drill holes have been completed, and the company informs The Financial Post that not a single blank was encountered. One hole, No. 5, is stated to have intersected 12 ft. of core, grading 9.5% copper, and possibly a 6% or 7% grade of copper ore was indicated by the 15 holes. Five more holes are now being put down to the 1,000-ft. horizon, and results from this work will probably govern the location of a new shaft site.

A ton of ore was sent recently to Denver for testing, and results are reported to have been favorable.

Thompson Cadillac

An estate of which I am executor holds a block of shares of Thompson Cadillac Mining Corp. Can you tell if the shares have any current value?

The entire property and equipment of Thompson Cadillac Mining Corp. in bankruptcy, was sold by the trustees in bankruptcy for $35,000 last April. No equity remained for shareholders, and it appears that your shares in this company are worthless.

New Wartime Regulations

Post Summary of Latest Ottawa Rulings

Steel in Mill Forms. M. & S. order S.C. 28, June 28. Unless the purchase order has been approved in writing, no person may purchase any steel in mill forms to be delivered in Canada from the U. S. Assoc. Steel Controller, M. A. Hoey.

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Vinyl Polymers. M. & S. order C.C. 28, June 29. Except with a permit in writing no person shall sell, supply, purchase or acquire any vinyl polymers. Chemicals Controller, E. T. Sterne.

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Silver. M. & S. order M.C. 25A June 29, provides that not more than 500 troy oz. of silver or more than 500 troy oz. of silver contained in an alloy of silver may be purchased or sold to any one person without written permission. Deputy Metals Controller, F. W. Connell.

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Automotive Parts. M. & S. order M.V.C. 26, July 10. Copper and copper base alloy may be used in the production of automotive parts only in certain specified parts. Motor Vehicle Controller, J. H. Berry.

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Tinplate. M. & S. order M.C. 4, July 12, rescinds order 4 and states that, in the manufacture of metal containers, tin coating must follow the specifications as set forth in P.C. 5110, June 24. Metals Controller, G. C. Bateman.

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Flat Steel Strapping. M. & S. order S.C. 29, July 13, regulates the purchase, sale and use of new galvanized and ungalvanized flat steel strapping. Associate Steel Controller, M. A. Hoey.

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Sale of Steel. M. & S. order S.C. 30, July 15. Except by permit no steel producer may sell to any person outside of Canada certain specified types of carbon steel, alloy steel or wrought iron. Associate Steel Controller, M. A. Hoey.

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Maximum Rentals. WPTB order 294, July 16, fixes the maximum rentals and termination of leases for housing accommodation and shared accommodation. WPTB Chairman, D. Gordon.

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Fuel Oil. M. & S. order 004C, July 15, amends order 004B by stating that after July 1 no consumer may purchase more than 4,000 imperial gallons of fuel oil for each year. Oil Controller, G. R. Cottrelle.

Dyestuffs and Organic Pigments. M. & S. order C.C.29, July 31, states that every person who uses fifty lb. or more of dyestuffs or who has used 300 lb. or more during the months Jan. to June, must file a return with the Controller by Aug. 20. Chemicals Controller, E. T. Sterne.

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Galvanized Wire, Annealed Wire and Rods. M. & S. order S.C. 31, Aug. 3, prohibits the use or sale of any new galvanized wire, or annealed wire or rods in any quantity exceeding 500 lbs. in any one shipment. Associate Steel Controller, M. A. Hoey.

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Soft Drinks. WPTB order 303, Aug. 4, sets the maximum price for soft drinks. WPTB Chairman, D. Gordon.

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Used Electric Motors and Equipment. WPTB order A-838, Aug. 5, regulates the sale and fixes the maximum prices of used electric motors and equipment. Adm. of Used Goods, S. Godfrey.

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New Tires and Tubes. M. & S order Rubber 4A, Aug. 6, amends section 17 of order Rubber 4 regarding maximum prices for new tires and tubes for use on trucks. Rubber Controller, A. H. Williamson.

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Construction Machinery and Equipment. WPTB. order A-843, Aug. 7, states that a written application is essential for the purchase of new construction machinery and equipment. Adm. of Farm and Construction Machinery and Municipal Service Equipment, H. H. Bloom.

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Used Industrial and Construction Equipment. WPTB order A-813 Aug. 7, requires every one who owns used industrial and construction equipment to make a written report to the Administrator and also sets the maximum price for such equipment. Adm. of Farm and Construction Machinery and Municipal Service Equipment, H. H. Bloom.

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Thermoplastics. M. & S. order C.C. 30, Aug. 9, states that no person shall use any thermoplastics in the manufacture of any article without a written permit. Chemicals Controller, E. T. Sterne.

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Fancy Meats. WPTB order A-849, Aug. 10, sets the maximum prices of certain fancy meats and meat by-products. Adm. of Meat and Meat Products, F. S. Grisdale.

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Sausage. WPTB order 305, Aug. 12, fixes the maximum wholesale and retail prices of sausage. WPTB Chairman, D. Gordon.

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Used Domestic Radios. WPTB order A-852, Aug. 13, amends order A-761 respecting price schedule for used domestic radios. Adm. of Used Goods, S. Godfrey.

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Rubber. M. & S. order 6-C, Aug. 13, sets the maximum prices for GR-S (Buna S) and GR-I (Butyl). Deputy Rubber Controller, J. A. Martin.

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Women's, Misses' and Juniors' Coats, Suits and Sports Jackets. WPTB order A-850, Aug. 13, sets the style, sale and delivery of women's, misses' and juniors' coats, suits and sport jackets. Adm. of Women's, Misses' and Juniors' Coats and Suits, H. Rother.

• • •

Book, Writing and Specialty Papers. WPTB order A-835, Aug. 14, revokes order A-179 and limits the amount of paper that may be purchased by any one person. Adm. of Book and Writing Papers, A. P. Jewett.

• • •

Waxed Bread Wrappers. WPTB order A-855, Aug. 14, revokes section 3 of order A-523 respecting base paper for conversion into waxed bread wrappers. Adm. of Book and Writing Papers, A. P. Jewett.

• • •

Steel Drums. WPTB order A-858, Aug. 16, amends section 13 of order A-604 respecting Used Steel Drums. Adm. of Used Goods, S. Godfrey.

DIVISION HEAD

E. F. Vincent, director of LaSalle Builders Supply Ltd., Montreal, who has been named head of the company's newly formed industrial division in which is being incorporated three former branches, foundry supplies, refractories and specialties.

Gold Output Works Lower

Production by Gold Mines Down 25.5% for First Half of 1943

While Canadian gold production in June was higher than in May, output was much below that of June a year ago and total gold production so far this year is much below that of 1942.

June output from all sources totalled 326,611 fine ounces worth $12,574,524. This, compared with 313,396 ounces the previous month and 427,982 ounces for June last year. Output for the first six months of 1943 was 1,972,677 fine ounces compared with 2,512,111 ounces the corresponding period of 1942.

Base Metals Do Better

Gold production figures include by-product gold recovered by base metal mines and decline in gold production from gold mines was actually more severe than the above figures indicate as base metal gold production increased 9.3% for the first six months of 1943. Production from auriferous quartz mines (including placer gold) was only 1,652,782 fine ounces the first six months of this year, or 25.5% less than a year ago.

June production by provinces, from all sources, was as follows:

(In fine ounces)

Area:	1943	1942
Nova Scotia	405	1,805
Quebec	77,873	91,494
Ontario	190,153	240,483
Manitoba and Sask.	22,832	29,072
British Columbia	21,497	46,043
Yukon	6,992	10,137
N. W. Territories	6,859	10,199

East Crest Oil's new Deca No. 1 and Deca No. 3 wells are reported to have been started. Drilling on Deca No. 1 was reported at 158 ft. on Aug. 20. No report has been received on No. 3. The two wells are being drilled jointly by East Crest and Davies Petroleum. East Crest also advises that it has received payment for 50,000 shares, part of the August 31 installment of 100,000 shares under the agreement of Feb. 22, 1943, with Haras Corp. Outstanding capitalization is now 2,473,587 shares, leaving 526,413 shares unissued.

Self-Starters ONLY NEED APPLY

The dynamic of democracy is that self-starters are not forever thwarted by red lights.

The trails of democratic progress are broken by go-ahead men, men with ideas, energy, application and ingenuity — self-starters. A man who is unable to move without being ordered is likely to get nowhere because he will never get started. So it is with a community or nation. For what is everybody's business is nobody's business.

Insurance did not begin with any bureaucratic blueprint. It began with the personal initiative of individuals, and it progressed by the trial-and-error of other self-starters who took up where their predecessors left off.

The Employers' started in this way. It has progressed and expanded throughout the world, because enterprising people have found in it adequate scope for their personal enterprise. In insurance, as in every other department of the machinery of democratic progress, "only self-starters need apply."

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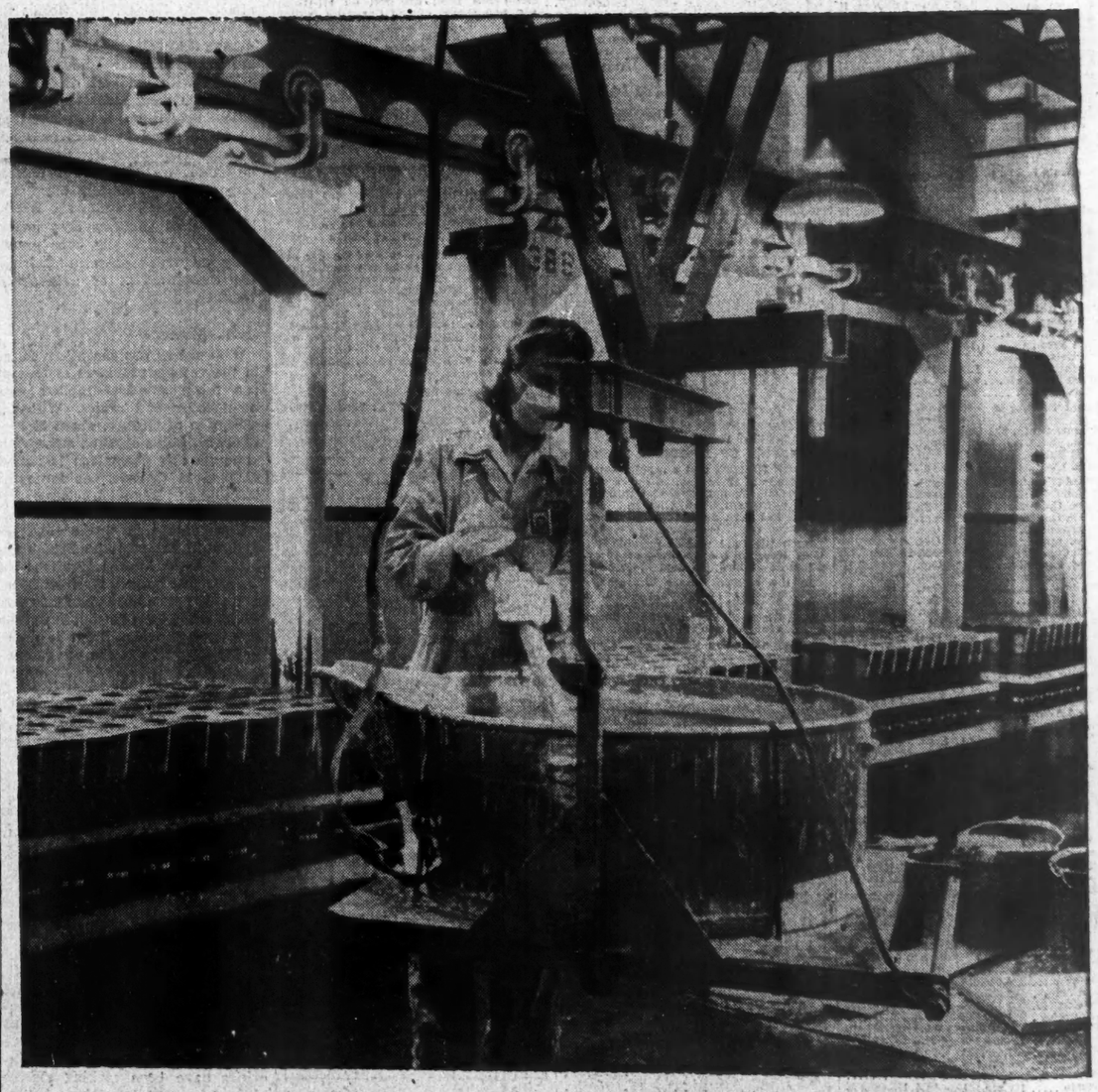


At TNT-time it's served hot from a rubber tub

A typical example of B. F. Goodrich development in rubber

TNT has to be hot and liquid before it can be poured into bombs or shells. It used to be poured from aluminum tubs into rubber buckets, then into the shells. But the TNT hardened as it cooled. Some of it always crystallized and stuck to the sides and bottoms of the tubs in layers almost an inch thick. The only way to get it out was by pounding with a mallet and chisel; a hard, time-wasting job. The hammering on the aluminum tubs caused serious damage each time they were cleaned.

B. F. Goodrich had developed a special chemical-resistant rubber for lining chemical tanks in electro-plating plants. Tests proved that a similar compound, in a layer only ¼" thick, would resist the action of the hot TNT.

Lightweight removable linings were made from this compound and inserted in the tubs. The crystallized TNT stuck to the rubber just as it had to aluminum. But when the light lining was removed it was easy to flex the rubber and break off the hardened TNT in seconds instead of the minutes needed by the old method. Liner and tub could be used again immediately. Then B. F. Goodrich developed linings of synthetic rubber to be ready whenever rude rubber is not available.

Today B. F. Goodrich rubber tub liners are speeding up work in bomb- and shell-loading plants from coast to coast. In ways like this B. F. Goodrich research contributes to the successful prosecution of the war. In similar ways this research will contribute better products made of rubber when the peace comes. The B. F. Goodrich Rubber Company of Canada Limited, Industrial Products Division, Kitchener, Ontario.

B.F. Goodrich
FIRST IN RUBBER

THE FINANCIAL
POST
Canada's Foremost Business Newspaper
Toronto, August 28, 1943

War Demand Without Limit Ushers in New Industrial Era

Mass production methods to meet war equipment needs plus new factories and new techniques promise revolutionary postwar development — High cost factor obliterated

Last week The Financial Post reported that the proportion of the world's nickel consumed in Canada is two and a half times as great as it was before the war.

No production index could reveal more comprehensively the rapid growth of Canada's position in the world's industry. Nickel consumption not only measures a country's industrial magnitude, but reflects how complex, how advanced, how "sophisticated" that industry has become.

Key to Canada's rapid advance has been the sudden emergence of an unlimited demand for war products. That demand has meant the adoption and extension of mass-production techniques, partly because mass production was the only way to deliver the goods, partly because mass production only becomes possible when demand is "unlimited."

Little Duplication of Work

And of almost as fundamental importance has been "rationalization." With the exception of the smaller subcontractors, very little duplication of work exists in the Canadian war structure. Two firms may be engaged in producing gun barrels, but very seldom will they be turning out barrels for the *same* gun. And each of the guns produced will be specialized to one major purpose.

By and large, no two war plants can be regarded as "competing" with each other, in the normal sense of the word. Competition is internal, directed toward reducing costs, increasing output, cutting absenteeism, each plant striving to improve its own record. There are, of course, notable exceptions to this rule, such as production of Catalina flying boats simultaneously by Vickers in Montreal and Boeing in Vancouver, but over the general picture each producer has a clear field.

Only in the presence of a very great demand does mass production become practical, because mass production methods involve tremendous increases in costly equipment which cannot be used to full capacity unless a market is broad. Mass production is a science in itself, a science that makes possible the advancement of scores of other scientific achievements.

Most obvious of these attendant developments is the growth of the machinery industry — automatic machines, machine tools to make other machines and to make the direct weapons of war.

"Unlimited" demand for war products has been responsible for Canada's rapid industrial advance and for the widespread adoption of mass production techniques which only demand in volume can render economical. Of the innumerable attendant developments in Canadian industry is growth of the machinery industry which produces machine tools for making machines. Of the latter may be featured a machine whose sole job is spurting a dab of paint on a shell fuse stud and another which pulls bullets apart. Many of these fantastically "human" machines may disappear during peace for lack of volume demand. Even so they will likely leave their mark on industry as a whole, especially in fields where lines were formerly produced by slower methods which competition will render no longer practical.

They Do One Job Only

Building automatic machinery is largely a tailor-made business. Although a great many standard automatic machines exist, such as the automatic milling machines which are used to turn out finely machined parts from solid bars and which can be adjusted for different jobs, scores of machines have had to be designed for one job only.

Typical of this group are the many specialized tools used in ammunition production. In one Canadian fuse-making plant, for example, is a machine whose sole purpose is to spray a little red paint on a small stud that goes into the shell fuse. An attendant slips the studs one by one into chambers in a sort of miniature ferris-wheel. As the wheel rotates a few drops of paint are squirted at the stud, after which the wheel moves the stud past an infra-red lamp which dries the paint and the stud drops into a hopper ready for use.

Pulls Bullets Apart

In one of the Dominion arsenals is an automatic machine whose job is to pull bullets apart. The only bullets it receives are those which are defective or suspected of being defective. Jaws clamp on the bullet and its cartridge, pull them apart and drop each separately into containers while the powder falls into a third container. All components can thus be salvaged.

These two machines are symbolic of the industrial revolution that has gone on behind the scenes in Canada's war plants. Neither of the machines would likely prove economical if it were not for the tremendous volume of production that is passing through them. In normal times an ammunition maker would not have enough duds, or suspected duds, to keep one unskilled worker busy with a pair of pliers. Few peacetime manufacturers would find it worth while to buy a specially designed machine to put a lick of paint on a small item like the fuse stud — any apprentice could do the job with a child's paint brush.

Many Processes May Vanish

For this reason many of the highly mechanized processes in use today may be expected to disappear after the war—unless the peacetime market for Canadian industrial products takes on some of the characteristics of wartime demand. But even if peacetime demands fall substantially short of wartime volume, the receding flood of our mass-production economy will leave permanent effects on the nation.

Those companies which have become schooled in mass planning and mass mechanization will logically apply those methods to their peacetime operations. Highly mechanized processes which proved themselves economical in a few short years of wartime peak production will at least get a fairer trial for peacetime work than ever before, and if their cost can be spread over a longer period will in many cases prove economical.

Where the Plums Go

We can look forward to the mass method of production in many lines formerly produced by slower methods. Competition will make a wide extension of mass production inevitable. Whether the postwar market is small or large, the plums will go to the firms which first attain the maximum of mass efficiency at low cost. An era of intense competition is in the making.

This one technique of mass production will probably prove the greatest single factor in shaping Canada's postwar industry. But there will be many other sciences and arts whose application will become more widespread.

Television For All

Electronics, for example. That general section of this industry which has come to be known as "radar" has brought television to the threshold of the modern world. Long delayed by high costs, slow development, a sceptical public and occasionally by opposition among rivals, television is at last becoming a reality. Cost of the principal television tube has come down from over $100 to around $30, and production of sets to meet the average purse is now possible.

Electronics is now used for scores of industrial jobs. It hardens the noses of our armor-piercing shells, making standard steels as tough as some of the precious alloy steels. It welds aluminum, formerly a job that has been regarded as next to impossible, thus tremendously widening future uses of this metal. It cleans the air around delicate aircraft motors and may take the dust out of private homes, take the soot from city smokestacks. It may revolutionize navigation, both in

(Continued on page 21)

—Ford Times photo.

Prime ingredient in Allied formula for victory, industrial science's contribution to the postwar world will be found in new and improved consumers' goods of infinite variety. A striking example of the many ways science is serving war industry is to be seen in this X-ray equipment, capable of revealing even the most minute imperfections in metals.

Ears of the Fighting Forces

To Spend $300 Millions for Signalling Apparatus This Year

The military adage that the army with the best communications, provided other factors are not too far apart, lways wins has been proved true time and again in this war.

It was better communications that contributed so much to Germany's early victories in 1940; it was better communications that meant so much to allied victories in Africa this year and last.

Without the communications—or signalling as it is termed in military circles—an army is blind; air fleets could not operate; nor could navies do their vital work. Radio, telephone, telegraph, visual signals of various kinds, all play tremendous parts in war.

They are moreover of prime importance to peacetime living. And out of wartime development Canadians can well expect better and cheaper radios, perhaps more efficient telephones or inventions as yet untried.

Get Top Priority

It is this well recognized fact that has meant placing the manufacture of communications equipment in the top priority (along with ships, airplanes and a few other selected items).

Measured by cash outlay, communications manufacture probably ranks in the first seven among the Munitions and Supply programs, being outranked only by such fields as ships, airplanes, automotive equipment, guns or ammunition. This comparison becomes more striking when the size and weight of ships or planes are contrasted with that of the average radio set.

The job has grown tremendously. In 1939 and 1940 only $3 millions was paid out by Munitions and Supply for communications equipment. This year estimates suggest that between $250 millions and $300 millions will actually be produced in Canada. This remarkable growth will mean that in one year Canadian factories will turn out as much communications equipment as they did in the four preceding war years.

Little Capital Assistance

The job, moreover, has been done with relatively little capital assistance although government companies such as Research Enterprises Ltd. have become tremendous factors in the job. Biggest single source of radio devices in Canada today is Research Enterprises with production of several million dollars monthly.

But the established radio, telephone, and electrical equipment companies everywhere across Canada have done a tremendous job in adapting their peacetime production to war needs and in producing articles of which few of them had ever seen or perhaps heard of before the war.

Now ranking in sixth place among major Munitions & Supply programs in Canada, production of signalling apparatus for Army, Air Force and Navy ranks as one of our greatest achievements. Out of the need to meet war's exacting standards may easily come a peacetime radio, or telephone, that is far better than any now in ordinary use. This year between $250 millions and $300 millions of communications equipment will roll from Canadian factories with radio playing the major role but the whole program involving about 100 different types of equipment. It ranges from radios to cable layers, and includes thousands of miles of electrical cable, signal lamps, telephones and switchboards. Each month about $20 millions of this equipment is produced in Canadian factories.

Developments, moreover, have been great. Wartime volume, and the necessary lessening of emphasis on cost in the face of the absolute necessity of turning out required equipment, has meant that a decade of progress has been compressed into a few months.

Take the case of radio tubes—valves to the military man.

Canadian makers of radio tubes had an estimated 600 different types on their lists before the war. Today this has been standardized to 120 types, a job which has been lead by the valve manufacturers committee, a group set up to assist Munitions and Supply and the armed services.

Standardization has been carried out in the military fields as well with tremendous benefits from the standpoints of cost and production efficiency. The Inter-Service Technical Committee has reduced the number of types of radio sets from 234 to 64, of paints from 31 to 4, and has drawn up standard specifications for electro plating and packing. It is expected that in the relatively near future some 50 different types of head sets and microphones will be reduced to about 7.

Stronger and Better

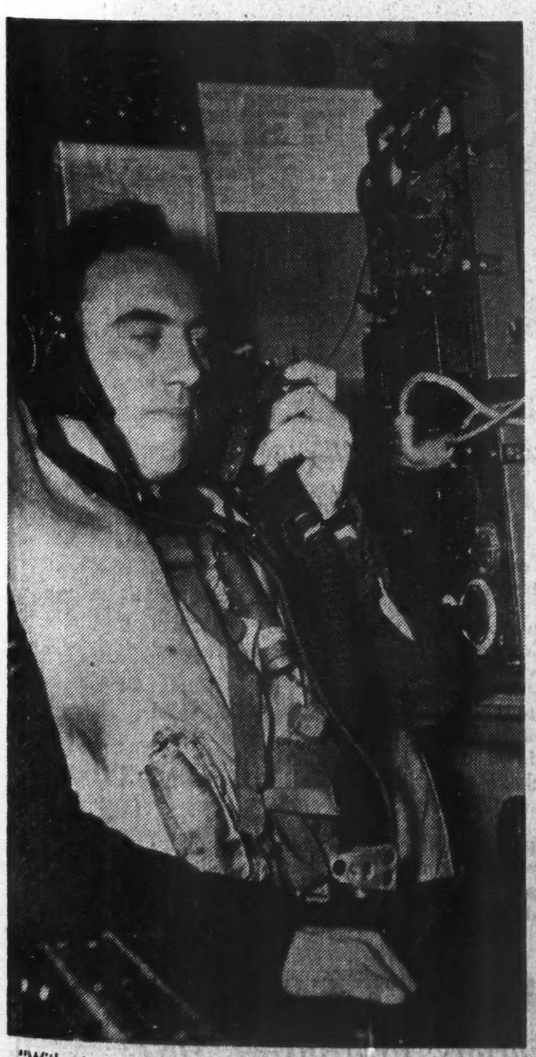
Further illustrative of what has been accomplished is the contrast between what kind of usage a military radio will stand compared with that which used to be accepted as good for the ordinary domestic home radio receiver. Extremes of temperature from 50 deg. below zero to desert heat of 150 deg. have to be withstood. Jolts in tanks or airplanes would play havoc with ordinary radio sets. Surges of current, sure death to the condensers of an ordinary set, have to be resisted.

The result in one case has been condensers for radios which can be produced for far less cost than the ordinary peacetime standard called for and which are practically indestructible. This is only one example of the kind of improvement which there is reasonable hope can be incorporated into the postwar radios, giving better, cheaper service and opening up a tremendously enlarged market.

Efficiency has been increased to lessen the power use and other needs. The contrast between the famous "Walkie-Talkie" radio re-

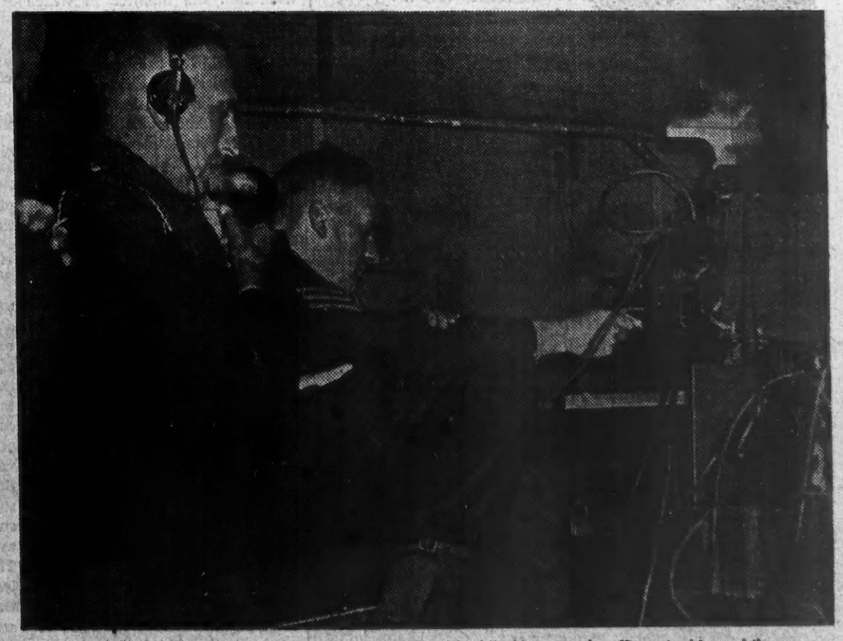
(Continued on page 21)

Production For Victory
— One of a Monthly Series —
Report for August—Science In the War Communications — Office Equipment



"Without communications . . . air fleets could not operate." The radioman and his equipment is the bomber's link with the ground.

"Without communications . . . navies could not do their vital work." The signalman with his flashing light is the link between destroyer and convoyed merchant ship.



"Without communications . . . an army is blind." The signals officer in his mobile broadcasting unit is the link between GHQ and forces operating in the field.

Cables for War

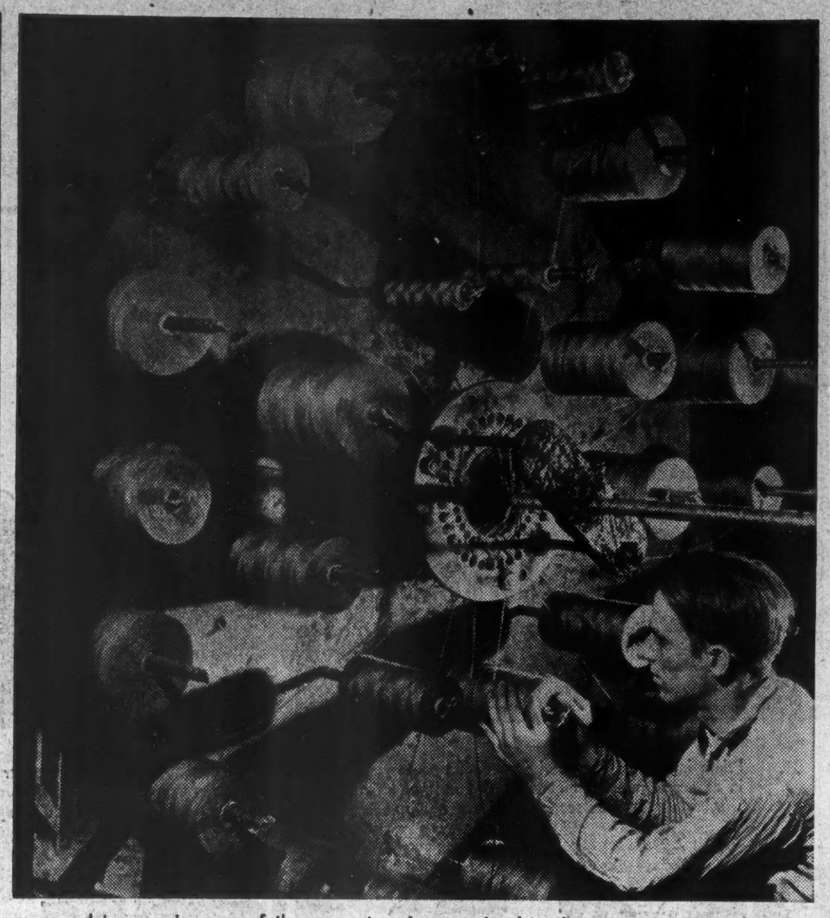
Canada Makes All Main Kinds

Use Proved Methods and Adapt New Insulations

Ask almost anyone how many electrical cables Canada is manufacturing and the answer will be wrong. Nearly 3,000 types of cable are being produced in this country, ranging in size from 4½ inches in diameter down to less than half the width of a human hair.

Many of them are highly secret; likewise information on the mileage produced, for the Axis powers would like to know Canada's production of this highly important product which finds its way to members of the United Nations the world over.

Electrical cables play a vital part in wartime just as in peacetime. While war needs rank at the top of the priority list, nevertheless all that is produced cannot go to the armed forces. Much must be kept at home to maintain such essential services as telegraph and telephone communications; power supply; transportation; water works, etc. These needs, it is estimated, require about 20 to 25% of the total output. The balance is for war purposes.



Jute wrapping, one of the many steps in preparing long-distance and submarine telephone cable to withstand wind, water and erosion is shown in this photo taken in a Montreal cable plant. The cords, on a system of spools, are being laid over a cable sheath of lead. Jute from India is now used for vital cables only.

Overcome Magnetic Mine

One of the most spectacular cable types produced for war needs, at least from the point of view of the public, is the de-gaussing cable. Designed to offset the magnetic mine, all naval and merchant ships are equipped with it, but the same cable is not installed in all ships.

Special de-gaussing cable is required for naval vessels, because they are a mass of steel and steel equipment which is highly magnetic. Merchant ships, on the other hand, do not require such a specialized type of cable.

No figures are available because of censorship regulations on the mileage of each type of cable produced, but it can be said that a large number of British ships, both fighting and merchant marine, are equipped with Canadian made de-gaussing cable.

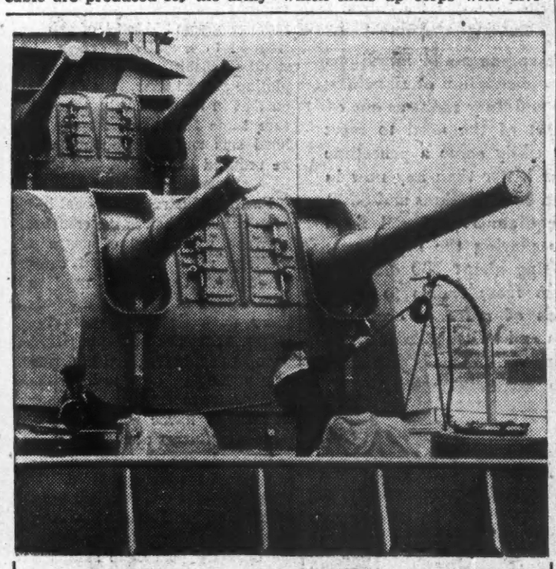
Army Needs Large

Huge quantities of telephone cable are produced for the army in connection with its field telephone service. Special machines have been developed for handling this cable mechanically and it can be laid automatically from vehicles travelling 10 to 25 miles an hour.

Then, too, there is the quad cable — a four-conductor cable which links up corps with divisional headquarters and goes in ahead of the semi-permanent line. In addition the Army requires carrier cable, super-posting units and other special types.

Cable is also required for mobile workshops, for they have to be wired. Battery-charging vehicles; X-ray vehicles and numerous other types of military equipment are supplied with Canadian-made cable.

Fire-controls for anti-aircraft guns use large amounts of cable, as also do the fire-controls in the field and coastal defense areas.



300 Navy Types

The navy's requirements differ very sharply from those of the Army. A modern destroyer, cruiser, or even the less-flashy, but nevertheless highly efficient, corvette is a mass of wiring.

Fire-controls, signal-controls, de-gaussing cables, radio, etc., are only a few of the 300 types of cable which go into the construction of a naval ship.

Air-force requirements are equally great. "Untold miles" of electrical cable have gone into the construction of fighters, bombers, patrol and other types of aircraft.

Requirements for airports are heavy, as also is the case with directional finding stations, weather bureaus, etc.

Use Standard Equipment

To produce the 3,000 types of electrical cable required for war purposes and essential civilian use, the Canadian industry has not installed special equipment; it is using exactly the same equipment that was in place before the war started.

Basic methods of manufacture have remained the same, but there have been many and highly important changes in materials used and the manner in which they are employed.

Naturally the greatest change has come in the use of rubber for insulation. There has been no shortage of copper, lead and steel for manufacturing. Aluminum, of course, has long since been put on the banned list.

Using More Plastics

For some time past there has been a steady de-grading in the rubber used for insulation. The percentage of raw or crude rubber used has declined from 60% to 30%, with the balance made up of reclaimed rubber. Even this type of rubber will not long be available, as shortly all Canadian cable manufacturers will be using only plastic or synthetic rubber insulation.

Thermo-plastics, or koroseal and poly-vinylite, to give them their trade names, have been used for some time with satisfactory results. Fortunately for the war effort of the United Nations considerable experimental and trial work had been carried out on these plastics before the war. As a result the "kinks" had been eliminated, or largely eliminated, when the time came to use them in the manufacture of cable.

The use of these plastics is widespread. Special types of extrusion machines have been developed for coating the wire. Plastic-covered wires are satisfactory for most purposes, but care has to be exercised as to where they are used. Especial care is needed where the plastic-covered cables come in touch with heat, for the covering has a dissolving point.

Question of Cost

Though results with plastics have been very satisfactory, it is doubtful if the industry will continue to use this type of insulation when raw rubber again is available. There is no fixed opinion on that score. It is all a matter of economics. Plastics now cost appreciably more than rubber, but if the cost can be placed on a basis competitive with rubber, then there is no apparent reason for not continuing to use them.

Another major change in manufacturing has to do with the replacement of tin, supply of which is very limited. For some time the industry has been using a new material which, while it serves the purpose, is not as satisfactory as tin, nor is it likely to continue in use when supplies of tin are available.

Buna-S Coming In

The use of synthetic rubber is not far off. The new plant at Sarnia is expected to come into production before the end of the year. Supplies will be made available to the cable industry. The change-over to Buna-S is going to be an arduous task, judged by the experience of American manufacturers who have handled this material. All the "bugs" have not been eliminated. It is believed that some time will necessarily elapse before all problems in connection with its commercial use are solved. In the meantime, the change-over will be effected at some cost in production.

Other types of insulation material, such as paper, cotton, etc., have been available to the cable manufacturers in ample quantities.

Lessons of War

The war has increased the number of types of cables produced in Canada. It has not brought anything new in the way of manufacture, but it has given the operators broad experience in the use of new materials. Some of them have been used because of necessity and have proved their value. There is no assurance that their use will be continued once supplies of standard materials, such as rubber and tin, are made available to the manufacturers. That is a matter of costs, but at least the cable industry has shown that it can function, fully and efficiently, on materials that do not have to be imported from some far-off country.

Radios Receive Tough Trials For War Jobs

Test Men Simulate Service Conditions to Avoid Failure in Field

If someone were to take your radio and drop it on the floor, heat it in the oven, and then freeze it in the refrigerator, you would naturally assume that its useful days were over. Yet that, in principle, is what wireless sets for the Canadian Army must go through before they are adopted and placed in production by the Department of Munitions and Supply.

The idea, of course, is not to wreck the radios, but rather to see that they will stand up to the gruelling conditions of actual warfare. Knowing well how tubes can work loose and soldered joints break under the constant pounding received in a tank, how parts freeze up and insulation cracks in sub-zero weather, and how condensers melt in extreme heat, not to mention a dozen other varied troubles, technicians at the Canadian Signals Experimental Establishment have devised a variety of test equipment to duplicate service conditions.

They take pride in their work, these professional radio-wreckers. Their satisfaction is great when after hours of punishment a future tank or armored car radio is still standing up and functioning well. A set which comes through the tests with flying colors is not apt to go wrong in the field when lives depend upon it.

Testing a wireless set for modern warfare is no haphazard job. In a mechanical "shaker-upper" the radio receives shocks gauged to simulate the pounding of a tank or some such fighting vehicle. When a piece of equipment is "cooked" in the experimental oven, the heat treatment is carefully controlled to match conditions which might be met in desert warfare. And every time a set goes into the freezing chamber and the temperature drops until the rime and frost collect on the chassis, it is the laboratory reproduction of possible operating conditions on some battlefield.

Throughout such tests, the radios are kept in operation and after each "workout" an exhaustive check is made with precision instruments to determine ill effects, if any.

This rigid testing is part of the process of development of all radios designed by the Directorate of Signals Design, Army Engineering Branch, Department of Munitions and Supply. Sets from "outside" sources are similarly "given the works" to ensure that they are up to the manufacturer's specifications, as well as the requirements of the Department of Munitions and Supply and the Inspection Board of the United Kingdom and Canada.

The testing of signals equipment is not all confined to the radio laboratory. Before any piece of apparatus is finally adopted, "pilot models" from the manufacturers are put through extensive field tests. Actual operation of signals equipment in a tank or armored fighting vehicle which is climbing hills, plunging through gullies, or fording streams, may often reveal difficulties or faults not previously noticed, and these must be remedied before the equipment can be placed in production.

CANADA'S TELEPHONE TALKS

Year	Long Distance Calls (Million)	Total Calls (Million)	Average Per Capita
1930	37.5	2,513	246
1931	33.2	2,454	236
1932	27.2	2,347	223
1933	24.4	2,272	213
1934	25.4	2,304	213
1935	26.0	2,321	212
1936	28.0	2,472	224
1937	30.8	2,614	235
1938	30.3	2,623	234
1939	31.6	2,774	245
1940	34.9	2,899	255
1941	39.7	3,012	262

Telegraph Traffic Grows

(Compiled from Dominion Bureau of Statistics Data)

Year	Sent*	Rec'd from United States	Cable-grams	Money Transfers $000
1932	9,096	1,400	1,514	4,699
1933	8,526	1,587	1,597	3,633
1934	8,992	1,554	1,691	3,951
1935	9,566	1,573	1,297	3,834
1936	11,002	1,733	1,392	4,297
1937	11,644	1,812	1,489	4,551
1938	11,220	1,594	1,404	4,104
1939	10,783	1,680	1,492	3,540
1940	11,261	1,471	1,657	3,118
1941	12,689	1,592	2,252	3,868

*Includes commercial, wireless messages to and from ships on the Great Lakes and St. Lawrence River and between stations in N. S., Que., and Ont.

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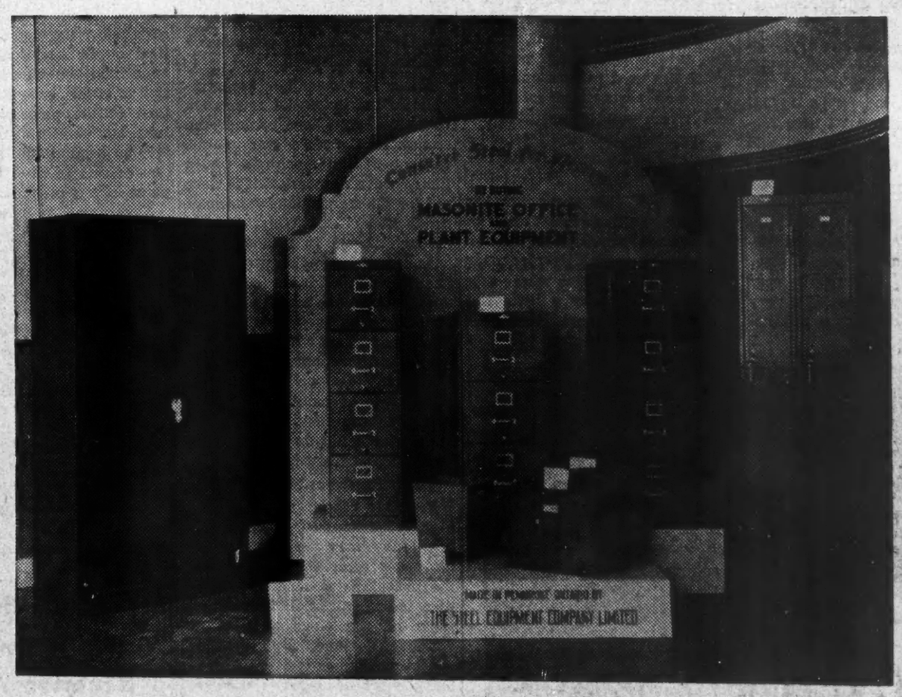

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Business Engineering

Wage Incentives Win Acceptance

Efficacy of Bonusing Seen in Increased Output of Workers

With the governments of Canada and United States urging industry to "whip up the horses," all the components of existing planning and production programs are being re-examined by industrial management. An important element in the solution of upping war production and planning for post-war business lies in wage incentive plans.

It is from recent publicity on such industrial wonderlands as that of Jack & Heintz, Inc., Cleveland and Bedford, Ohio, manufacturers of airplane starters, gyropilots and other flight instruments valued at $84 millions a year, where wage incentives are very much a force in increasing output, that the wage incentive idea has been highlighted.

—National Film Board photo.

Over Avro-Anson training plane fuselages of plywood from domestic red pine, birch or poplar, these workers in a Montreal aircraft plant place "skins" of plastic, product of Canadian industrial chemistry.

300% Increase

It is known that wage incentives frequently increase productivity of workers from 100 to 300%. Recent surveys, says the George S. May Business Foundation, suggest probably one half of American manufacturers have adopted some form of wage incentive plan, at least in some department.

The efficacy of such systems is indicated by the fact that President Roosevelt has exempted "incentive pay" from his "hold-the-line" rule against wage increases, while the National War Labor Board of the United States is granting "incentive pay" wherever it can be proved that it really is an "incentive" to greater productivity. Moreover, labor unions usually favor such programs when they are fair to the individual worker.

According to sources contacted by The Financial Post, such systems of incentive pay are already currently and widely in use in Canadian war industry. If an employer has not previously been offering wage incentive bonuses, however, it is necessary under war time regulations for him to apply to the Regional War Labor Board of the province in which he is operating to get authorization to introduce such wage incentive bonuses.

Bill Jack, one-time business agent of a machinists' union, believes that, given high pay and personal respect, the workingman will turn out more production. As millionaire president of Jack & Heintz, he has a managerial technique which provides his employees—"associates" as they are known—with complete physical examination, mouth X-ray, bad teeth pulled or filled, a $2,500 life insurance policy, a $2,500 accident policy, a health insurance policy covering his family and a minimum guarantee of $25 a week for eight weeks if he is off work for sickness.

And yet the firm turns out an enormous quantity of war materials at low cost, using methods sometimes regarded by other industrialists as at least mildly undesirable.

"Incentive pay," whereby a worker is paid an increase in wages when an increase in production is shown, is not a new idea. It is attracting attention, however, as a device to speed output of industries working on war materials and to augment work per man. There are a variety of forms taken by "incentive pay," the most spectacular being that of the American firm of Jack & Heintz, Cleveland and Bedford, Ohio, where workmen start at a minimum wage rate of 95c. an hour and where, through a system of overtime at time-and-half rates, the lowliest employee can earn $400 a month.

Methods of bonusing workers are widespread in Canada, although permission to introduce incentive pay has to be secured from the Regional War Labor Board of the province in which a business is operating, if such an arrangement were not in effect prior to the war.

Moreover, wearing $15 comfort shoes, getting free laundry service and consuming nutritious hot lunches and vitamin pills, the Jack & Heintz workman starts at an hourly wage rate of 95c. It's 85c for women. The workers themselves voted to operate on a two-shift basis, with an 11½-hour working day seven days a week. They have just one day a month off when the whole plant closes down.

"Incentive pay" with a view to enabling war plants to produce more per man to meet manpower shortages is being urged by Charles E. Wilson, President of General Electric Co. and Vice-Chairman of the War Production Board.

In other words, he recommends workers be paid more if they produce more. Instead of a wage per operation or per hour, Charles Wilson suggests that when total production of a plant goes up 10% let the pay of the workers also go up 10% for all workers together.

As an example of how some managements and unions are tackling the idea, Murray Corp., Detroit, manufacturers of frames for trucks and jeeps, employs four union time-study men from the U.A.W., who were trained for six months at the company's expense to check company standards set for work and also employee complaints in this respect.

An employee who continues to fail to produce on the basis of standards agreed by company and union will be discharged.

In addition to establishing standards for normal production, Murray Corp. recently offered an "incentive." With standards as set, the company agreed to hand out 1% more pay for every 1% increase in production. It is now 25% above normal.

Since cost of investment in plant, of interest on borrowed money and of all management remains the same when 25% more money is paid labor for 25% more production, it means that 25% greater output brings net cost down and net income up.

Average Wage $4,800 Yearly

Lincoln Electric Manufacturing Co. of Cleveland, Ohio, claims to be the world's low-cost welding equipment producer and world's highest factory-wage payer. By means of incentive plus unity of effort on part of management and workers, in 1941 its workers averaged some $4,800 a year.

A bonus is paid at the end of the year based on total productivity and total prosperity of the plant as well as on character and value of the worker himself.

Net industrial result of the Lincoln method is that with an efficient incentive a production rate three times normal average can be continuously maintained and with shorter working hours.

The efficacy of soundly conceived, properly installed wage incentives no longer is questioned. Experience demonstrates that all classes of employees may be covered under simple workable plans, either individually or in homogeneous groups.

Frederick Winslow Taylor, founder of scientific management, showed 50 years ago how to increase production and reduce total unit costs while paying higher wages. Taylor noticed that certain indirect expenses remain approximately constant whether the output of the establishment is large or small. From that it followed that "the diminution in the indirect portion of the cost per piece will be greater than the increase in wages."

Since Taylor's time a great crop of engineers came into being with numerous wage plans and systems. However, nowadays certain broad principles rather than precise formulae govern application of wage incentives, says the George S. May Business Foundation. Base rates, when determined by external forces, need not be changed. Experience indicates incentives may be built into almost any practical wage payment plan by setting the correct performance standards. Following preliminary steps are recommended:

1. Review of Production Controls
2. Job Standardization
3. Job Evaluation.

When production controls have been checked over, performance standards are set for each job. Wage incentives, in the form of increased compensation, accrue when a worker's production exceeds the standard thus established.

Under Job Evaluation jobs are analyzed and evaluated according to their relative importance within an organization. After determining job characteristics such as skill, effort, responsibility and working conditions, point values may be assigned to such characteristics. These points or ratings then may be translated into wage rates.

Wage payment plans fall into three groups:

1. Payment based upon time worked: hourly or daily rates.
2. Piece rates.
3. Combinations of time and piece rates.

A few better-known plans are:

Time or day rates (unstandardized) are easy to understand or compute, but offer the worker no direct incentive. Employer must depend upon supervision to obtain value for his money. Labor costs are difficult to predetermine and control.

Premium Plans (sometimes called Constant Sharing Plans) were introduced by Frederick A. Halsey in 1890. A time rate is guaranteed, tasks or performance standards are set and time saved is shared by employer and worker. The worker's share of the saving, ranging from 50% to 85%, offers a fair incentive. Plan is understandable by workers but payroll computation is none too simple.

Rowan Variable Sharing Plan, introduced by James Rowan of Glasgow in 1898, guarantees a time wage with task or standard based upon experience or past performance. Roughly for every 10% saved on time allowed, the worker receives a 10% increase in earnings. His earnings cannot equal twice the guaranteed rate. For low production, this plan favors the worker more than the Halsey Plan, but in the higher production range the worker does not fare so well. Plan is difficult to understand and compute. Unit costs tend to be higher and maintenance of production is less likely. It is not popular with American workers.

Straight Piece Rate, a constant rate of pay per unit of work, has not been popular with workers in modern times. Employers used to cut rates as workers became proficient and earned higher wages, thereby destroying the incentive and causing much labor unrest. Otherwise, with accurately determined rates, this plan offers highest incentive to experienced workers, although it does not compensate for time lost due to causes beyond worker's control.

Taylor Differential Piece-Rate Plan, introduced in 1895 by F. W. Taylor, sets tasks within the capacity of the competent worker and arranges working conditions so that such workers can accomplish their tasks, thus affording an efficient worker an opportunity to earn higher wages. No daily wage is guaranteed. It also embraces two piece rates: a high rate applied when the worker equals or exceeds his task. A low rate is paid when he fails to equal the task.

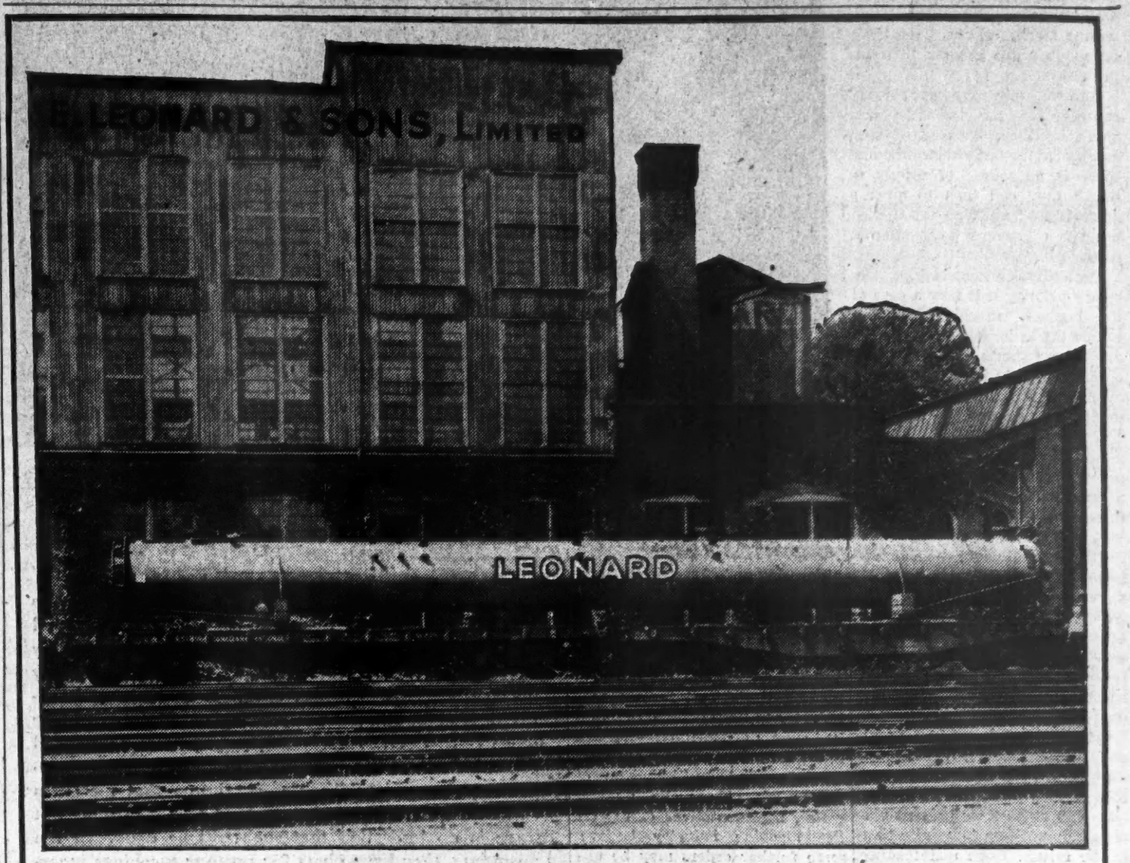
It was not popular and eventually was abandoned in favor of the H. L. Gantt plan. It retained the differential principle without the punitive feature. A daily wage is guaranteed. Instead of a piece rate, it pays on the basis of standard time. A liberal bonus encourages each worker to complete his task within the standard time. It has been used successfully in many industries. Somewhat difficult for employees to understand and payroll computation is difficult.

Standard Hour Plan. Task is expressed in standard hours. If an employee completes a 5-hour task in 4½ hours he is paid the standard time of 5 hours, thus receiving all of the direct labor saving. Basic daily wage is guaranteed. Plan offers an excellent incentive to the worker, and payroll computation is simple.

Of recent origin, this plan seems to be a variation of the 100% Premium Plan, intended to serve as a compromise between an incentive plan and a straight-time plan. Ordinarily this plan imposes rather heavy burdens upon supervision.

The **Emerson Efficiency Wage-Bonus Plan** was introduced by Harrington Emerson, an industrial engineer. It guarantees a daily wage. Beginning at two thirds of standard or high task, a sliding scale of bonuses is paid up to high task—to encourage the worker to attain standard performance. Above high task the worker's bonus becomes actual time worked instead of standard time, or less than the saving in direct labor costs. With accurate job standardization the plan provides a good incentive, but employees find it hard to understand and payroll computation is not simple.

The **Wennerlund Plan** was devised by E. K. Wennerlund, a former associate of Emerson. Similar to the Emerson Plan, it is more likely to produce results because all direct labor savings go to the worker. General Motors used the plan from 1912 to 1937.



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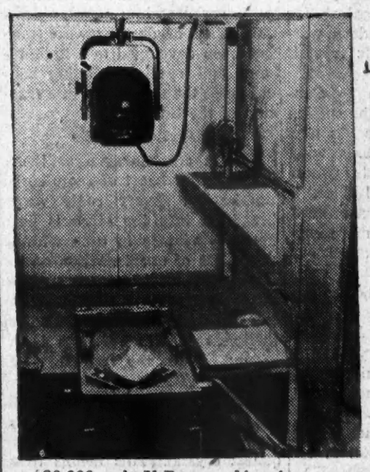

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Great industries can be built on the utilization in new forms of inexpensive, abundant wood, because trees are a crop. With the kind of help nature is now receiving through the scientific management of the forest industries, the future of these new industries is secure.

Canadian Lumbermen's Association

VICTORIA BLDG., OTTAWA

Office Machines

Curtailed Supply Hits Industry

Makers Seek Relief But Little Indication of Action Noted

Next to its depleted man and womanpower, management's most cherished asset in carrying on business today might be said to consist of a none too plentiful supply of mechanical office equipment. Indeed, in the estimation of many an office manager harassed by wartime stringencies his practically irreplaceable typewriters, accounting, tabulating, adding machines, etc., have taken on value much greater than the proverbial ruby.

And well they may have for, say representatives of the office machine industry, backlog of such equipment is fast dwindling and there is no source of supply to which they can turn to meet a demand that must go unsatisfied because of severe governmental restriction.

For many concerns lacking necessary priority it is now a case of the business machine shortage competing in importance with the manpower shortage. Today, according to these industry sources, even the reconditioned replacements are practically used up. The few machines that are being manufactured are quickly snapped up by war industries, government departments and the armed forces.

Conservation Stressed

Efforts to alleviate the shortage have been made by companies [illegible] which, with emphasis on its coast-to-coast maintenance and repair service, has in recent months been urging the importance of conservation and care of machines on hand.

Where many firms had previously followed the practice of trading in their equipment every four or five years, they are now forced to make their present machines do until an indefinite time in the future. Such maintenance and repair service has provided one of the best forms of insurance against machine stoppage but there are indications that the growing manpower and parts shortage is beginning to show the first signs of weakening the cure.

Having regard for wartime conditions, the solution to this very real worry in the conduct of many a business can only be conjectured at but there are those who maintain that a measure of relief could reasonably be afforded through a "loosening up" of restrictions now in force.

One reason civilian business may not have all the office equipment it would like: a section of the Foreign Exchange Control Board's filing department, suggestive of the huge quantities of such material required by greatly expanded government departments.

In effect, they say that the drastic curtailment orders clamped on by Ottawa to conserve materials and labor have had the result of making it difficult for ordinary industry to keep going on its limited supply of machines—and this in the face of mounting manpower shortages and multiplication of war work. To make matters worse, representatives of the office machine industry believe, some further orders may be under consideration by Ottawa which would apply even more severe restrictions.

Machines to be Had?

On the other hand, some industry sources feel that there is available something approaching an adequate supply of office machines ready for use, over and above the needs of the armed forces and essential industry. In support of this they point out that production of such equipment in the United States has been set at about 50% over 1941 production, a record year for the industry.

It is therefore suggested by some in the Canadian industry that a degree of relaxation of existing controls is justified, together with steps to secure more equitable distribution to industry partly on the grounds that direct war needs for business machines of all types have been pretty well satisfied. It is also suggested that it would be quite feasible for Canada to secure release of additional equipment from the U. S. if proper representation were made from official sources.

In this connection one industry spokesman had this to say:

"Consumption of office machines in Canada compared with the United States for a 10-year period prior to the war was about 6½%. Since 1940 exports from the U. S. to Canada have been steadily decreasing, due to wartime restrictions which appear largely imposed by the Canadian authorities, until consumption is only 3%. Exports from the U. S. to lend-lease countries are exceeding their peacetime consumption. The point of this is that the United Nations countries other than Canada appreciate the tremendous labor-saving possibilities of modern office machinery and are taking advantage of it.

"Production of office machinery in the United States is now fixed at approximately 50% over 1941 production, the largest year in the industry's history. The reason for this was the recognition of the importance of such equipment in the country's wartime economy. As a result the industry making it has been given more favorable consideration than perhaps any other war and peacetime activity in the country.

"It is generally recognized that, in the United States, office machines will be made available to any activity where it can be shown that such machines will release present personnel for direct war duties or save hiring additional personnel."

WPTB Controls

Canada began control of office machinery in May, 1942, when by Order A-194 manufacturers and dealers were prohibited from selling, without permission from WPTB, typewriters, new, used or rebuilt, in greater quantity than 65% of total unit sales made in Canada during 1941. Exception was made in the case of typewriters which at date of sale were more than 15 years old or were of the portable type with retail value less than $50.

At the same time, sales without permission of new, used or rebuilt nonportable typewriters were prohibited to any but the armed forces, Dominion government departments and, with permission, to plants concerned in the manufacture or construction of aircraft, armament, machine tools, equipment and supplies and other commodities of high essentiality listed by WPTB.

In Sept., 1942, a further order respecting used machines was made. This defined a used typewriter as one in use for more than 12 months and established maximum prices of sale and rental.

Then in January of this year all office machinery came under control and its sale, whether assembled in Canada or imported, was restricted to a limited number of users of high priority. The order covered machines for tabulating, accounting, adding, addressing, billing, recording, dictating, duplicating time recording and special typewriters for statistical purposes.

A subsequent order, last April, amended previous typewriter controls to redefine a nonportable machine as one weighing more than 25 lb., a new typewriter as one made after Dec. 31, 1942, and virtually to limit rental periods to 15 days. By the same order manufacturers were prohibited against making more than three models of portables and were restricted in the number of carriage sizes and keyboard variations they could produce. A month later, control had extended to typewriter ribbons and carbon paper. Colors of the former were restricted while makers of the latter were limited to such brands and colors as they had made in 1942. By the same order the wrapping and packaging of such items was subjected to considerable simplification.

It is hardly an exaggeration to say that business and industry could not carry on without office machines, in view of increased figure-work and "green" help to do it. Many large corporations have lost their experienced men to the services and war industry. Work formerly done by them is now in many cases, being carried on by less experienced employees with the help of mechanical equipment.

Machines Save Manpower

An excellent example of the part such equipment is playing in conserving labor on the industrial home front is the payroll accounting machine. While it is so far not a matter of regulation in Canada that employees must be provided with a properly documented statement every payday, many firms are now doing this in anticipation of our country following the United States lead in making this compulsory. That such a procedure, if enforced, could constitute a serious holdup in business operations is made evident by the fact that many war industries have as many as 15 different deductions to make from their payrolls, all of which must be properly recorded.

Another example of the increased efficiency brought about by office machinery is that before their advent the average company of 600 employees had six or seven people in their payroll department. This number has now been cut in half. In the matter of payroll distribution, where ten people were formerly employed, it has now been demonstrated that the work can be done by one clerk—assisted by the right machine.

As the war industry field widened, the office-machine industry, particularly in the case of typewriters, developed accordingly. In the two years of non-curtailed production before June, 1942, the industry built up to such a point that momentum has carried it forward to just about the present time. The current picture is one of rapidly disappearing stocks and no visible source of replenishment.

Changes Unlikely

Assuming the possible resumption, in some measures, of production in the near future, it is generally believed that the present type of equipment will experience little in the way of basic change. In the four years of war the office-equipment industry seems to have run the gamut of every change that is essential to the furthering of the war effort.

Undoubtedly every manufacturer has specifications on his drawing board for using new-found materials for the typewriter and office machine of the future but in most quarters it is believed that utility, as heretofore, will be the prime essential of postwar development.

Faced by depleted manpower and womanpower, as well as ever-growing demands for office records and returns, Canadian industry finds itself handicapped by shortages of the machines it used to accept as everyday necessities. This shortage, covering typewriters, bookkeeping, accounting and tabulating machines and other office equipment, is likely to grow more severe. Rigid controls in Canada are expected to be made more stringent. Makers of this equipment argue that measures could easily be taken to bring about a better supply but there is no indication that such will be done. In the meantime, they have plans for postwar machines incorporating new ideas but expect that first machines turned out when production is resumed will show little variation from those now in use.

"A Stitch in Time Saves Nine"

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Radio Controller

Jewels Take on a War Job

Quartz Crystals Keep Wireless Sets on Beam

Memories of old days in the radio business when amateur enthusiasts tickled a crystal to get mysterious signals coming from the Arlington time signal station are revived by the modern wartime demand for quartz crystals in radios today.

Practically unknown to Canadians before the war, the cutting of these quartz crystals has now become an important job, growing into a large scale trade almost overnight in a Montreal plant.

Production has mushroomed more than 1000% and more crystals are now being turned out each day in Canada than were made in an entire year before the war.

Mostly cut from Brazilian quartz, the crystals vary in size according to service requirements. For a high-frequency short-wave transmitter, the crystal may be no larger than a man's thumb nail and only a small fraction of an inch thick.

Brazil Supplies Quartz

Canada has been able to meet all its crystal needs with imported Brazilian quartz but imports have been limited to such quantities as orders can be shown for due to scarcity of the material and difficulty of obtaining shipments from South America.

It is these crystals so carefully made that keep radio receivers in a tank in action tuned accurately to the sending station at headquarters, for exampe. There is no need for the operator to fumble with his controls nor does his set wander off the particular band at which he is supposed to receive.

Crystals have another advantage. If there is reason to suspect that the enemy has discovered the wave length at which orders are being transmitted, it is relatively simple to change crystals of both the transmitting and receiving set, thus bringing into play an entirely new wave length.

A few years ago all crystals made in Canada were turned out entirely by hand. Skilled lapidarists ground the tiny squares of quartz to the desired thickness with carborundum powder on a thick sheet of glass. Now the trade has been developed to a high degree and special grinding machines do the same work in a fraction of the time.

Heart of a Radio

Quartz crystals such as these are the very heart of radio communication. Every radio wave broadcast into the ether is first made to vibrate in tune with a thin piece of quartz. When excited by an electric current, the latter will vibrate steadily at a rate precisely determined by the thickness to which it has been ground. Thus, the frequency or vibration rate of a radio transmitter may be perfectly fixed and then controlled by attuning it to the unwavering oscillations of a quartz crystal. This means that programs from a particular station will always come in at the same point on the receiver dial, never interfering with or garbling programs from other stations.

In war, in the welter of radio messages flashing over a tank battle or among a flight of bombers, it is only the channelling effect of quartz crystals on the hundreds of transmitters that makes sensible intercommunication and co-ordination of effort possible.

Each radio crystal has to be cut with regard to the electrical, mechanical and optical axes of the stone to get proper results. As few perfect stones are found in nature, accurate location of these axes is made more difficult. The natural or "mother" crystal is carefully examined by X-ray to ascertain the proper cutting angles. Once this has been decided upon the required number of "slices" of quartz are cut by means of diamond-toothed saws. These slices are then placed in a grinding machine and a slow process of bringing them down to the required thickness begins.

Use Mathematics

As the thickness of the crystal for a given frequency can be computed mathematically, the rough preliminary cutting can be gauged by means of a micrometer. But due to the delicacy of the operation and the fact that crystals of the same thickness do not always oscillate at the same frequency, micrometer measurements, no matter how fine, are not accurate enough for the final polishing.

As a result a crystal oscillator, which measures the vibrations of the crystal in an electric circuit, is used. To ensure that no off-frequency crystals are turned out due to faulty measuring apparatus, the crystal oscillator which is used for this purpose is checked against high-precision primary frequency standards, such as are used by the Dominion Observatory.

Finished surfaces of the crystal must be accurate to within tolerances of less than 1/5000th of an inch if it is to oscillate properly.

Bulk of the crystals cut in Canada go into radio transmitters for the Army, Navy and Air Force, but large quantities are also used in certain types of secret detection apparatus and narrow band radio receivers.

TELEPHONE DENSITIES
(Based on Dominion Bureau of Statistics Data)

	Telephones per 100 population 1941	
	Residence Telephones	All Telephones
B. C.	13.4	19.2
Ont.	13.2	18.6
Man.	7.6	11.4
Quebec	6.5	10.5
N. S.	6.9	9.9
Sask.	7.7	9.8
Alta.	6.3	9.7
N. B.	5.8	8.5
P. E. I.	4.3	6.3
Yukon	1.7	3.6
Total	9.2	13.4

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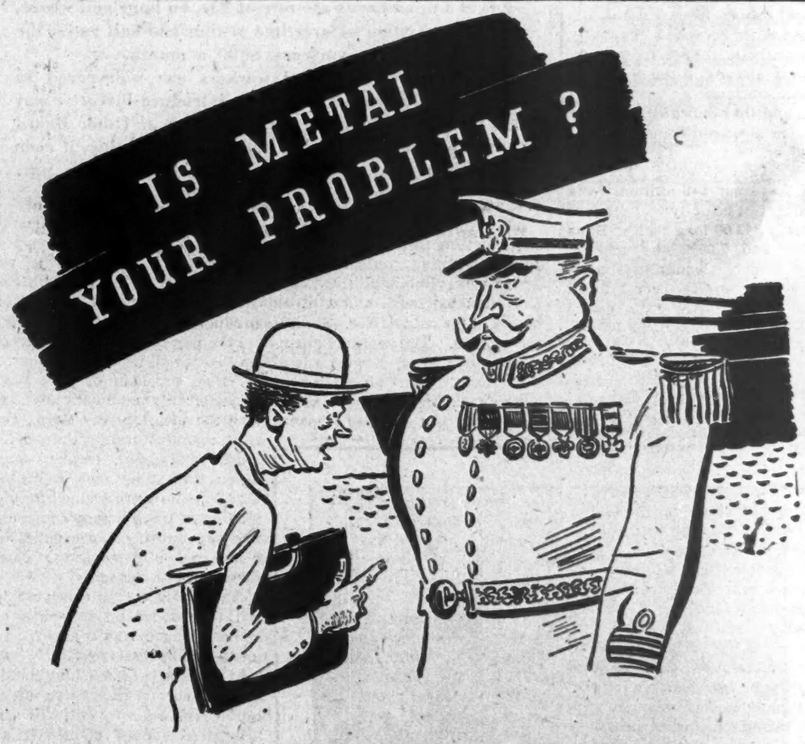

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Where there is any doubt about plastics being satisfactory for the job, we prefer to pass up the business rather than risk the reputation of plastics on a job they may not fill. Our set-up is complete from designing and engineering, and making the molds to producing the parts you need.

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Plastics have proved themselves better than metal for many purposes. Molded plastic parts reduce weight, stop corrosion, cut costs and speed production. They save many man hours. Dozens of different plastics have different characteristics. They can be hard and rigid or flexible and tough . . . Plastics can be designed to stand hard wear and knocks or be delicately beautiful. They come from the mold without requiring further painting or polishing operations. They can be transparent, translucent or opaque.

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Postwar Industry

Canada's Synthetic Future Looks Big

Diversity Will Be Hallmark of Postwar Industrial Expansion

Even though each week Canada launches six ships, sends aloft 80 planes, turns out 4,000 military motor vehicles, makes 940 heavy gun mountings, 13,000 small arms units, 10,000 tons of war chemicals, $4 millions worth of instruments and communications equipment, and 525,000 shells, the spotlight is swinging gradually from munitions for war to Canada's readiness to achieve industrial greatness in the reconstruction era and after.

With the value of her manufacturing output increased from less than $3½ billions in 1939 to more than $8 billions this year, and with diversification of production suddenly greatly advanced, war industry is affording the basis of growth to true industrial stature among the nations.

Debt to Synthetics

Diversity of output, however, owes an increasing debt on this score to the synthetic materials, many of them developed as substitutes for common substances in short supply, many of them promising permanent adoption and expanded use.

Among wartime shortages resulting from territorial loss, shipping difficulties and diversion to munitions and military supply, one of the most critical has been rubber.

But Japanese conquest of Empire rubber resources has been followed in less than a year and a half by creation in America of an entirely new synthetic rubber industry. And Canada's part in this development alone is an augury of raw-materials independence.

To Improve Buna-S

Canada is expected to continue production of synthetic rubber after the war and it is thought that over a period of years the price at which Buna-S can be turned out may more than compete with natural rubber. In technical discussion it has been said frequently that synthetic rubber is in many respects already superior to the natural substance for certain purposes and that indicated improvement in processing may give it added advantage.

The Crown-owned Polymer Corp. has spent $40 millions for a plant that eventually will produce annually 34,000 long tons of Buna rubber and 7,000 long tons of Butyl rubber. Canada's synthetic rubber program has been hitched to petroleum rather than grain-alcohol or grain-butadiene as raw material.

Uses of Neoprene

Synthetic cousin to rubber is C.I.L.'s Neoprene, produced by cracking turpentine and crossing it with chlorine. Outwardly similar to rubber, Neoprene is found to be more resistant to heat-failure, sun cracking, oil-softening, and is widely used as an adjunct to rubber.

The whole field of industrial chemicals is in a state of flux and examples of the trend toward Canadian self-sufficiency are many.

To replace supplies of ammonium chloride from Europe, the war has stimulated development of a new manufacturing process in which Canadian materials may be used. Also known as sal ammoniac, ammonium chloride has been in production for two years at Hamilton, Ont., utilizing the new process, the product going to manufacturers of dry batteries, galvanized sheet metals, leather, yeast and soldering fluxes.

Carbon bisulphide, formerly imported from U.S. and widely used in rayon and other manufactures, is being produced in quantity at a new plant of Cornwall Chemicals, Ltd.

Ferment in Chemurgy

The chemurgical field is the scene at present of U.S. tests of a new protein recovery process in extraction of alcohol from grain. The process follows the 1943 Balls-Tucker sulphite method which makes unnecessary the use of barley malt to convert starch to fermentable sugars, and which recovers more than 70% of the proteins of the grains as against the 40% of current practice.

Advances on the tests indicate far-reaching success, suggest a bare possibility that ultimately the protein by-product of the grain alcohol industry may become the end-product, with alcohol relegated to a place of lesser importance. This, by many engineers, is considered far-fetched theory. Already, though it is clear that the new process promises great increase in the supply of proteins from grain alcohol plants and that the increased supply would be available not only for animal feeds but possibly also for new human food products, and certainly for such structural and industrial uses as adhesives, paints, paper and plastics.

The National Research Council recently announced completion of a new pilot plant for testing a new production method for butylene glycol (butadiene base) from wheat. The pilot plant is flexible enough to permit investigation of all types of fermentations of farm products, including alcohol production. The Canadian testing of the butylene glycol process coincides with tests undertaken recently in the same process by the Seagram plant at Louisville, Ky.

An improved method of separating starch and gluten fractions of wheat flour has been developed by NRC at Ottawa. Wheat starch is as suited to manufacture of sugars and syrups as is corn or potato starch and also is suitable for use in manufacture of sizings for papers and textiles, adhesives and other industrial materials.

Ottawa pilot plant study is being made of the separation process and the Council also is investigating methods to improve industrial products made from wheat starch. Likewise experiments have been made on chemical derivatives of starches with the object of their utilization as plastics.

Food Processing

Canada Packers and Hudson's Bay Co., under brand names "York" and "Birdseye," have been chief developers in Canada of the fast-freezing of seasonal foods and other perishables like fish and meats, distributing the product through the outfitting of retailers with special refrigerated display cabinets. This, and the relatively new refrigerated locker storage service for the individual consumer, when broadened in application after the war, will solve many food distribution problems and perhaps considerably alter the food transport volume.

Dehydration has played a new food role in wartime. While the fighting fronts and war transport efficiency are the chief beneficiaries at the moment, dehydrated foods have interesting possibilities for postwar civilian development, both in central plants and in home dehydration units.

A ton of fresh potatoes, after storage, peeling loss, etc., commonly produces about 1,500 lbs. of edible. When dehydrated, the same ton is reduced to 300 lbs., and is transported with obviously great saving in weight and bulk; with the addition of water, the original ton yields from 1,500 to 1,800 lbs. of edible potato.

Dehydrated meats, soups, milk, eggs, vegetables, fruit juices, are being sent in quantity to Britain, Russia and China, production having been substantially stimulated by the Canadian Government. Five major plants, two each in Nova Scotia and Ontario, one in British Columbia, recently were consuming daily about 30 tons of raw vegetables and comparable quantities of other produce.

Nylon is an important new industry that has come to stay.

Manufacture of nylon yarn from flake polymer imported from U.S. was undertaken in Canada last year at a Canadian Industries Ltd. plant at Kingston, Ont.

While clothing articles of nylon are virtually unobtainable due to diversion of the yarn to war purposes, they will play a prominent part in the postwar market.

Nylon is made from phenol (carbolic acid) which comes from soft soal, in combination with ammonia which is made by combining hydrogen from water with nitrogen from air. Manufacture of nylon involves extensive processing with costly and elaborate equipment, in contrast to low cost and ready availability of raw material. It costs more to make nylon than to make rayon.

The process that has been brought to Canada further to round out variety of the Dominion's industrial output derives from ten years' research by Du Pont chemists in the U.S. It was in 1938 that Du Pont announced development of a group of new synthetic superpolymers (large molecular formations) from which, among other applications, textile fibres could be spun surpassing in strength and elasticity any previously known textile fibre, whether cotton, linen, wool, silk or rayon.

Displacing Nature?

There is reason for suspecting that after the war nylon, and not silk, will be the standard material for women's stockings, as well as used widely in a wide variety of other clothing manufacture. It appears likely also that it will enjoy rapid development in peacetime industrial application.

The war, of course, has brought about a minor revolution in the whole textile industry as regards methods and materials, wartime innovations offer attractive exploitation possibilities for the after-war period. Water-repellent and fire-resistant cloth, for example, have attracted wide consumer-attention.

Rayon has taken what appears to be a permanent place in the industrial field, as tire fabric, for insulation, and for a hundred other uses in lieu of silk, cotton or wool.

Introduction of rayon-cotton mixtures in fabrics holds expansion possibilities. Mixture of staple rayon yarns with natural wool has demonstrated new opportunities for this branch of industry.

And among developments to come, i.e., past the test-tube stage and ready for marketing with return of normal conditions, one of the most interesting is artificial wool. The textile industry has others "behind the curtain" and some of them may have important influence on its postwar operations.

New Day For Glass

Fiberglas — new material that can be bent like rubber, tied in a knot like string, woven on a loom like cotton—has in four years made a substantial place for itself in electrical and thermal insulation, air conditioning and fireproofing. It has two basic forms, glass wool, and staple and continuous fibres.

Made in Canada by Fiberglas Canada, Ltd., at Oshawa, Ont., the wool is used in thermal insulation, the staple and continuous fibres woven into textiles for electrical insulation, chemical filters and decorative fabrics. In bonded mat form, fibres are interlaced and starched into a thin semirigid sheet as storage battery retainer mats; these are said to have doubled battery life by preventing waste seepage and are standard today in planes, jeeps, submarines and virtually all other mobile military equipment.

In "Foamglas," black, opaque and buoyant, which can be sawed, shaped or drilled without shattering or chipping, and in active development of its own plastics, the glass industry is preparing against the day of onslaught by the new plastics industry.

Research Enterprises Ltd. in Toronto today is producing in large quantity fine optical glass as good as any that ever came out of Germany. End of the war will leave Canada with a large and efficient fine glass industry where none existed before, another point of emphasis on her coming declaration of industrial independence.

Enter Plastics

In Canada, and indeed in the United States, plastics development is in its infancy. But it is a robust infancy and maturity promises to produce a giant.

Molded plastics are widely used today in place of scarce metals or to lighten deadload, as in aircraft; tomorrow a hard-surfaced plastic may supplant certain special glasses; the phenolic resins, in conjunction with wood and suitable fillers, may already have opened the way for large displacement of light metals in aircraft; saving of weight and power may justify use of relatively expensive plastic materials instead of pressed steel for motor bodies.

Already they have virtually conquered the realms of electrical fittings, instrument panels, ash trays, small containers, etc. Plastics, as reviewed in the Bulletin of the Royal Institute of International Affairs, include celluloid, shellac, casein plastics, phenol-formaldehyde resins — Bakelite, most widely used—alkyd resins, cellulose acetate, urea-formaldehyde resin, thermo-plastic resins and the injection molding process.

New progress began in the middle thirties, according to the Bulletin summary, with new thermo-plastics appearing at an astonishing rate, the injection molding process applied to them and to the older thermo-plastics on an ever increasing scale, and techniques of casting the phenolic thermo-setting resins and making reinforced and laminated materials from them suitable for most diverse uses, being pushed ahead with unexampled energy.

"The great accession of new materials was the fruit largely of research in polymerization, i.e., propensity of molecules of some simple organic substances, when suitably treated, to coalesce into very large molecules."

Revolution in Wood

No longer regarded as belonging to the past, wood is providing science with a fertile field of new materials. Plywood isn't new but where in its comparatively short history is there to be found a new field for its application comparable with aircraft? And there are great possibilities in it as shipbuilding and fitting material also.

The ring connector and laminated beam have given wood new life and meaning in heavy construction for bridges and buildings of long span. Woods treated for fire-resistance, wood fibres molded, wood coated with decorative or wear-resistant finishes, these are only a few of the wide range of other new developments in forest products.

Many of the new uses and products are of war origin but the majority of recent wood discoveries have broad peacetime implications. Success attending application of chemistry to wood indicates a dominant future position for the material in building and all industry.

Primary source of much that Canada uses in furthering her war effort, the scientist's laboratory is the centre of research for producing postwar goods "as yet undreamed of" by the public. This picture shows a National Research Council chemist engaged on one of the many experiments which have been part of the Council's ceaseless efforts to improve and add to Allied facilities for war.

Munitions output for the United Nations has skyrocketed Canadian industry into the big producer class. This same war plant in the near future will be diverted to manufacturing a diversity of consumer goods which will emphasize new processes awaiting V-day to be put into operation.

Within a year and a half of Japanese seizure of Malayan rubber, Canada was initiating a new synthetic rubber industry. C.I.L. is producing neoprene, widely used as an adjunct of rubber, while Cornwall Chemicals Ltd. is making carbon bisulphide, a former import from U. S. and needed in rayon manufacturing. Exciting developments are taking place and anticipated after the war in chemurgy, food processing, in nylon making, in the fantastic fields of glass, to say nothing of plastics and plywood. The theme throughout has a clearly Canadian accent.

Steel Strapping Use Gains In Securing War Packages

An important but perhaps little known way that steel is helping to win the war is in tieing up parcels—parcels which range all the way from Red Cross prisoner-of-war boxes to gigantic storage tanks weighing up to 16,000 lb.

Rope is in short supply as a wartime commodity and to a large extent steel in form of flat strapping has taken its place. Some idea of the extent may be had from the current number of "Process News," Acme Steel Co. house organ, which in illustrated form tells of the many ways the flat metal banding material assists with war industry's large-scale packaging and shipping problems.

"Process News" presents numerous pictorial evidences that steel strapping has become the accepted thing in many an industrial shipping department. Red Cross workers are shown using it to safeguard overseas cartons from damage and pilferage, huge storage tanks used in Canadian and U. S. war plants are seen secured by it atop railway flat cars, as are also 6-ton cases of firebrick on their way to defence projects in Northern Canada.

Steel strapping, says "Process News," is also used to band millions of square feet of Douglas Fir plywood on its way to Britain; it facilitates one-piece shipment of navy seaplane floats and auxiliary items to the fighting zones and plays its part in saving lives of fighting men when it protects 100-lb. cartons of surgical dressings destined for overseas field hospitals and first-aid posts.

CHEESE PRODUCTION

Cheese production in July amounted to 26,714,035 lb. against 30.2 million lb. in July, 1942. Stocks on hand at Aug. 1 totalled 51,190,852 lb., compared with 67,797,943 lb. on hand at Aug. 1, 1942, and 43,537,347 at July 1 this year.

The Telephone Business

Year	Capital stock $ millions	Funded debt $ millions	Total capital $ millions	Cost of property & equip. $ millions	Income $ millions	Expend. $ millions	Net income $ millions
1930	102.8	155.4	253.2	319.1	69.4	61.9	7.5
1931	105.8	168.2	274	333.1	66.8	60.1	6.7
1932	106.2	172.2	278.3	333.2	60.7	55.3	5.3
1933	106.3	165.2	271.6	330.5	55.7	50.0	5.6
1934	108.6	162.7	271.3	331.2	57.4	51.0	6.4
1935	109.8	159.8	269.6	327.8	57.0	50.9	6.1
1936	111.2	160.3	271.6	330	59.8	51.9	7.8
1937	127.3	160.6	287.8	335.8	63.3	54.5	8.8
1938	128.8	160.34	292.2	342.3	64.7	55.2	9.5
1939	150.5	162.2	292.7	350.2	67.4	57.4	10.1
1940	132.2	160.6	292.8	359.5	72.0	62.3	9.7
1941	133.8	163.9	297.7	372.6	79.4	68.7	10.7

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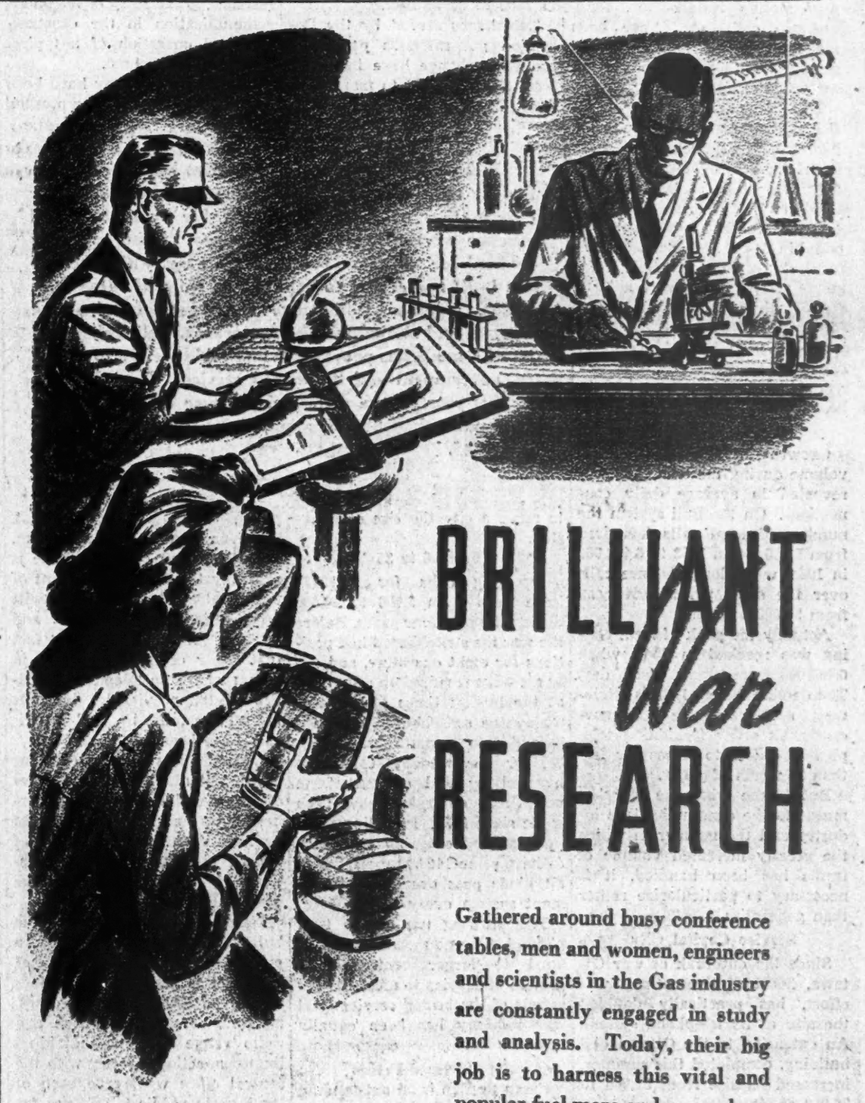

BRILLIANT War RESEARCH

Gathered around busy conference tables, men and women, engineers and scientists in the Gas industry are constantly engaged in study and analysis. Today, their big job is to harness this vital and popular fuel more and more closely to essential war tasks.

But out of their labours will emerge peacetime developments of startling importance to all Gas consumers of Toronto.

Ranges of breath-taking beauty and utility—Gas refrigerators with new undreamed-of freezing and preserving abilities—hot water and home heating systems of revolutionary character. Any or all of these things may be freely available in the happy days to come.

Meantime, your Gas Company is geared to the war effort. Every good citizen realises this and is happy to forego his desire for new appliances and services, and to throw his weight into the struggle for victory. Remember, too, that the war savings certificates bought today can be translated into better cooking, better heating, better refrigeration—and a higher standard of home living comfort when the peace bells ring.

The CONSUMERS' GAS COMPANY

Telephones in War

Growth Outpaces Facilities

Search For Substitutes and Conservation Emphasized

—National Film Board photo.

As wartime inter-city phone calls have increased in number so has the total of long-distance switchboards required. Here an installation worker is shown "splicing multiple" on a switchboard extension for an exchange in Toronto, largest long-distance centre in Canada.

Work of the telephone laboratories has been intensified by the war which at the same time has called for conservation of materials, search for substitutes and practice of the most rigid economy. Simultaneously demand for telephone service is growing, while the system itself has ceased to expand. In spite of these difficulties, together with acute shortages of telephone material and skilled telephone workers, Bell Telephone Co. of Canada has provided remarkable service to industry, government and the armed services. Net additions for last year on the system alone were held to 37,066, while more than 30,000 applications for service had to be denied.

Telephone communications in Canada ordinarily reach a peak on Christmas day. But since the war started the industry has been experiencing 365 Christmasses a year!

Capacity of facilities has long since been reached. Rationing of new station installations, long-distance calls, etc., have been made necessary to ensure the smooth working of telephone use for essential purposes.

More telephones are in operation today than ever before in the history of the industry. Yet were it not for government regulation, there would be at least another 75,000 to 100,000 in service.

Under wartime restrictions imposed in April, 1942, net additions for last year on the Bell Telephone system alone were held to 37,066, while more than 30,000 applications for service had to be denied. Up to the end of July, 1943, net additions were 20,500, while 31,600 applications had to be refused.

Wartime Load Heavy

Growth in telephone calling volume during the war is clearly revealed in average daily connections. On the Bell system the number of local calls increased from 5,560,000 in 1938 to 6,432,000 in 1942, while long-distance calls over the same period advanced from 57,000 to 87,000.

Actually the peak of local calling was reached in 1941, when 6,468,000 were handled each day. The decline during 1942 is attributed in large measure to the government's order forbidding telephoned orders to stores for less than $1 worth of goods.

But to see what the war has meant to the communications industry and the manner in which the greatly increased volume of traffic has been handled, it is necessary to particularize rather than generalize.

Service Capital City

Since the outbreak of war Ottawa, heart of the nation's war effort, has practically doubled the size of its telephone system. An extension to the Ottawa dial building, completed this summer, increased its size from 51,000 to 78,000 sq. ft.

Out-of-town messages have increased threefold—from 37,000 a month in 1937 to 100,000 a month at the present time.

New circuits have been provided to Washington, New York, the Maritimes and the Prairies. Circuits to Montreal have increased from 19 to 52 since Sept., 1939, largely as a result of the provision of a new underground cable between Ottawa and Montreal this summer. Circuits to Toronto have risen from 12 to 48. Altogether, voice channels leading from the capital have increased from 114 to 203.

Seventy operators have been added to the long-distance operating staff during the past four years, making a total of 135. The switchboard itself has positions for 60 operators on duty at one time.

40% More Telephones

Total telephones in service in the Ottawa-Hull exchange area have mounted from 39,000 at the close of 1938 to 54,000 at the present time—a gain of 40%. At times 70% of installation work in Ottawa has been on government orders. Although these orders are often on short notice and always in a hurry, not once has the war effort had to wait for service.

Since government telephones are used more frequently than the average installation, maintenance is higher and 25 to 30% of all maintenance work in Ottawa is on government equipment. Yet trouble reports from subscribers actually dropped from 118 per 100 in 1939 to 80 in 1942.

Telephones served by the Dominion government's private branch exchange have increased from 2,250 in 1938 to more than 7,000. The system is large enough to serve a city the size of Kingston.

From 6 to 25

Incoming calls for "2-8211" have risen from 5,000 to 20,000 during the past four years. Before the war the switchboard had positions for eight operators, and only six were required on duty even at the busiest times of the day. Today the switchboard has been extended to 25 positions.

Most government calls are handled by dial equipment, to which nine extensions have been made since 1939. Including these internal and outgoing communications, some 110,000 messages of all kinds pass over the government system every day.

The growing use of the telephone has by no means been confined to larger centres. The growth of service to meet the demands of the armed services and war industry has been equally heavy.

Serve Armed Forces

Camp Borden is an outstanding example of the amount of work involved in providing telephone service to a military camp.

In co-operation with the government, a large switchboard was installed and a complete cable distribution system constructed in the camp. Telephone lines between the camp and Barrie, 15 miles away, have increased several times over since the beginning of the war.

This growth at Borden has called for additional facilities at Barrie. The switchboard was extended until an addition to the telephone building became necessary. Then an entirely new dial system was placed in service in the enlarged building to leave the switchboard free for long-distance service only.

For the same reason a building extension and new dial system installation were made at Brockville, and entirely new buildings to house dial systems were placed in service at Kingston and Farnham.

Special managers have been placed in charge of telephone service for Camp Borden, the Exhibition Camp in Toronto, and various military centres in the London district.

A temporary building to house public telephones for the use of the men has been specially constructed at Lansdowne Park in Ottawa.

Help Air Training

In the amazing growth of the Commonwealth Air Training Scheme, telephone service has played a major role. Here, for instance, is the story of telephone communication in the construction and operation of a typical flying training school.

In 1939 the site may have been a wild strawberry field, a muskeg patch, or an uncleared forest. However inaccessible it may seem, the installation of a telephone is probably the first requirement of the contractor for the swift organization of supplies and working forces. Despite the fact that many of these sites are in places where no telephone facilities existed previously, demands for service must be, and invariably have been met promptly.

Requirements call not only for speed, but also for special types of construction. Because overhead lines near an airport might be hazardous to the landing of planes, especially at night, sections of cable may have to be placed underground.

When the construction of the buildings has been completed, a private switchboard or small dial exchange is installed, with lines to the administration buildings, hangars, personnel quarters and radio range station. Individual lines connecting directly with the central office will serve each of the several public telephones for the use of the men. A telephone should be available at every convenient point throughout the field, so that the least possible delay may be encountered in obtaining telephone service in an emergency.

In maintaining morale of the men in training, telephone communication with friends and families has proved invaluable.

RCAF More Talkative

The Air Force makes even more long-distance calls than the Army. Pay days, week ends and holidays, transfers and leaves, quarantine and bad weather cause a rush to the public telephones conveniently located throughout each Air Force station—and on such occasions the nearest exchange is often heavily overloaded. The immense number of new facilities required for such exchanges serves to indicate the incalculable value of the telephone in the war effort.

The traffic problem confronting the telephone companies is revealed by the experience at the RCAF Wireless School in Montreal. This school was first served by the Atlantic Exchange. When a large number of airmen had leaves all at once, the volume of calls pouring in to the Atlantic Exchange interfered with the service of other subscribers in that area. Therefore, the Wireless School is now served from the Elwood office as well as from Atlantic. The burden had to be divided to prevent a traffic jam.

A development of Bell Telephone Laboratories—a magnetic-tape sound-recording device known as the mirrophone — has been used to assist instructors in the Royal Canadian Air Force to improve clarity of their speech. Instructors must be able to speak distinctly, because they have to give orders to students through a microphone. On the mirrophone, a recording can be made and repeated back immediately, so that the instructors can hear their own voices as the students hear them. The recordings can be wiped off by a flick of a switch, and as many re-recordings made as are necessary, so that users can try phrases over and over until the results are satisfactory.

Telephones Build Bombers

Many of Canada's war industries are the largest of their kind in the Empire. All have required new or additional telephone services. And no wonder! For every fighter plane of a certain type that rolls off the assembly line, 450 local and 15 long-distance calls are made. It may take 12,000 calls, local and long distance, to build one bomber; 50,000 to build a corvette; 63,000 to build one 10,000-ton merchant vessel. In many places, too, these industries have created a great influx of new workers with their families, and a consequent demand for new residence telephones.

Because of the establishment of a new war industry an entire new exchange has had to be established at St. Paul l'Ermite, near Montreal. Because of the growth of existing industries, telephone buildings have had to be enlarged at Valleyfield, Sorel, St. Lambert and Longueuil. Full-time managerships have had to be established at Valleyfield and Sorel which were formerly in charge of chief operator only.

War Problems Are Old

It is difficult to say just what has been learned as a direct result of the war.

Every Christmas the telephone system has had to meet a sudden tremendous demand with limited facilities. Even in peacetime it just wasn't possible to build the special continent-wide telephone system required for one day. The war has merely made this holiday problem an everyday one. The same emergency measures formerly used only at Christmas are now being employed to handle wartime calling volume.

Similarly telephone operators have a considerable backlog of experience in handling rush installations and in making emergency repairs, such as after sleet storms. The war has merely reproduced known problems on a large scale.

Conserve Materials

Conservation of materials, search for substitutes, and the whole philosophy of rigid economy has always been practised. The war has merely intensified the work of Bell Telephone Laboratories along these lines.

For example, because of the tin shortage created by Japan's seizure of 80% of the world's tin supply, a new type of wiping solder has just been issued to Bell Telephone cable splicers. Wiping solder is a mixture of tin and lead used to seal the joints in telephone cable sheath after the wires inside have been spliced together.

Illustrating the value of substitutes worked out by the peacetime researches of Bell Telephone Laboratories, this solder is the third to be introduced by the Bell Telephone Co. of Canada since the outbreak of war. Whereas the solder used in 1939 contained no less than 40% tin, orders issued by the Metals Controller during the past year have reduced this proportion successively to 38%, 30% and finally to 20%. Each change has called for a re-training of all solder-using employees.

Similarly the war has intensified use of the carrier system, which permits several conversations to take place over the same wires at the same time, thus providing new circuits without the need for stringing new wires. Through a more intensive use of the carrier system than ever before, applied to one long-distance line alone, the Bell Telephone saved over 500 tons of copper last year.

Plans for Postwar

Postwar plans of the telephone industry are in the making. Typi-

— (Continued on page 19)

WHEREVER there is a Lockheed *working* or *fighting*—there is a trained specialist nearby to keep it at its peak operating efficiency. 6,000 experts, trained by Lockheed, paid by Lockheed, are now scattered throughout the world testing, checking, repairing, even rebuilding the thousands of Lockheeds so active now in commerce and in war.

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Performing the same functions in the military field as the telephone, telegraph and radio do in the civilian, the signals service is the nerve system of the armed forces.

By it orders and information are transmitted to the various branches of the Army, Navy and Air Force and between them and the high command. Through it preparations for operations can be made, battle actions directed and the various activities of the different branches of the forces correlated. Without it vital information may not be available in the right quarter at the right time and the success of a battle or a whole scheme of operation jeopardized. Hence the signals service plays an important part in warfare.

From Early Times

History is full of examples of the essential work done in war by an efficient signals system. Even primitive races of men found it necessary to communicate with each other, as, for example, by smoke rings as used by the North American Indians and by the tom-toms of the African tribes. Greek forces at Marathon are reported to have used the reflection of the sun on their shields to send messages over long distances. Beacon fires in England carried the news of the coming of the Spanish armada in the reign of Elizabeth. Nelson's famous message at the Battle of Trafalgar was spelled out by means of flags.

There was, however, little effort to organize a distinct signals service until fairly modern times when operations extend over many miles, and it was felt that a different means of communication was necessary.

Earliest type of signalling was by semaphore. Introduced at first in civilian circles, the Army did not take it up until some years after. By about 1825, however, it was in army use. The telegraph had been developed — by 1854 — and in the Crimea General Raglan used it to communicate with his front line troops. The casualty lists from the Crimea were sent home by telegraph. Signalling by heliograph flashes was also developed to a high degree of efficiency. Evolution of the telephone and later of the radio brought them into use for war signals purposes.

War of 1914-1918

In the war of 1914-1918 telephone and telegraph were much used. The older systems of flag- and heliograph-signalling fell into discard. The whole war area became a network of telephone and telegraph lines, often laid right up to the front line trenches. Radio and wireless were just coming to be recognized. In the present war their use has become much more general in all branches of the forces. The Navy and Air Force, for instance, have highly developed mechanisms to detect approach of enemy submarines and airplanes.

Modern warfare, whether at sea, on land or in the air, is a thing of swiftly changing plans, strategy and tactics where instant two-way communications of the most modern character are imperative for success. Illustrated in this view is the wireless-telegraph cabin aboard HMCS Iroquois, one of the Navy's new Tribal class destroyers.

The Signals Corps, by reason of the highly valuable information it is transmitting, is closely linked with the general staff of the Army and especially in Commando tactics. Its role in handling a multiplicity of jobs from laying heavy cable lines, locating and repairing trouble spots, sending and receiving messages from moving mechanized units or front lines calls for men of highly technical training, honesty, good judgment and discretion. In addition to providing liaison facilities with all branches of an army, signallers must also be prepared to fight. The importance of the Signals work is indicated by the fact that each branch of the services employs its own signals service, while the Navy and Air Force, in particular, have highly developed mechanisms to detect approach of enemy submarine or airplane.

Each of the three forces has its own signals service. While these originally were regarded as of primary importance to their own particular branch, in modern warfare, they feature combined operations involving all forces.

In the Army duties of the Signal Services is performed by the Royal Canadian Corps of Signals whose work begins at the recruiting office and is carried on right along the line to the point of actual operations. In addition to telephone, telegraph and radio, it employs visual devices, and is responsible not only for transmitting messages, but also for installing and maintaining equipment.

Accordingly its personnel must practically all be technically trained. A large number of skilled tradesmen are required, it being estimated that about 58 trades are represented in a complete signals unit.

They must be prepared to do all sorts of jobs from laying heavy cable lines similar to those used by civilian telephone and telegraph companies, to locating and repairing any source of trouble in the most delicate instruments.

Mechanization of the army has added further work to the duties of the signals corps. To keep up with rapidly moving mechanized units, sending and receiving equipment must be installed on trucks, in tanks and with mobile artillery batteries as well as in permanent depots and stations.

High Character

Because they are so often in possession of vital information, it is important that every man in the corps be hand-picked not only for his ability to do his job but for his character. Honesty, good judgment and discretion are essential aracteristics of the signalman. Officers are generally chain of organization begins at defense headquarters, in the United Kingdom at the War Office, and goes down through the army to the corps, to the division and from thence to brigades and from there to the headquarters of battalions or corresponding units in other branches of the service.

A Fighting Corps

Signals Corps personnel, besides giving communication service, must be prepared to fight, if necessary. Under modern conditions of warfare signal men may be brought into direct contact with the enemy. Accordingly they must be trained in the use of weapons, and ordinary methods of warfare.

At home in Canada the Signals Corps does a great deal of work of a more or less civilian nature. Up through the North West Territories the corps maintains a chain of signal stations which in peacetime are the main means of communications which those points have with the outside world. These services have been extended since the beginning of the war.

In The Navy

In the Navy, the signals service is a highly technical branch. As in the Army, telephone, telegraph and radio are widely used while older methods of signalling are also still in use. A large staff of Navy personnel is trained in the use and maintenance of the technical devices and this staff works in three shifts, the signal branch giving a 24-hour service every day. Possibly the most noteworthy feature of the Navy signals service developed in this war is the use of the radio locator or radar. Through it the approach of enemy submarine, or airplanes can be detected, and preparations made to meet them.

The Battle of Cape Matapan off Greece has been described in press dispatches as the first great naval battle of radar. According to an Associated Press dispatch: "A British fleet sailed up to an Italian fleet in inky darkness. Each British ship used radar equipment to select a target. The Italians had no idea there was a British vessel within hundreds of miles. All set, the British turned searchlights on the astounded enemy, blasted ship after ship to the bottom of the Mediterranean, then withdrew . . . "

In various operations since the beginning of the war efficient signals service has helped in combined operations. At Dieppe, in the North African campaign, in Sicily, signals all played their part between the Navy and the land forces.

In The Air Force

In the Air Force, signals work is also a highly developed branch. By it planes in the air can keep in touch with each other and with their stations on the ground and with other armed forces. By signals service an army or navy unit can request air co-operation and the Air Force can pass on important information to them in return. Radio location has enabled the Air Force to ascertain approach of hostile aircraft and to be prepared to meet them. Radio equipment too on life rafts has saved the lives of many airmen shot down at sea. Radio men of the force are highly trained in operational and maintenance work because so much depends on their ability to keep in touch with their units wherever located.

Accordingly in all branches of the war effort, signals services are essential to success.

men with technical training, such as electrical engineers.

Signalmen, officers and other ranks alike, must also have a thorough knowledge of army organization, the duties of the different corps, and the establishment of various units such as battalions, brigades and divisions. For this reason those with jobs such as dispatch riders, and switchboard operators, must make 80% in tests on knowledge of army organization.

Because it is so closely tied up with operations, the Signals Corps comes under the "G" or general staff branch of the army. Its own

Demand For Telephones Outpaces Facilities

(Continued from page 18)

cal is the planning of Bell Telephone.

If the company is permitted to earn enough to maintain its credit, the necessary capital can likely be raised economically and quickly, materials can be obtained and employment given to thousands of men and women in the transition period from war to peace.

Among the items included in the immediate rehabilitation program will be:

1. Facilities to provide service for many persons unable to secure it because of wartime restrictions.

2. Facilities to relieve the present seriously overloaded condition of telephone lines and equipment. Wartime demands have absorbed nearly all spare facilities on long-distance routes and in central office apparatus. This margin for growth and emergencies must be restored.

3. Reconstruction and relocation of many lines built in wartime, because of highway and other peacetime changes.

First Things First

The use which may be made of the "walkie talkie" and similar wartime inventions is still unknown. Present postwar plans are chiefly concerned with the improvements of existing equipment and services.

Introduction of the combined, or bell-in-base, hand telephone cannot be resumed until after the war. At that time it is probable that plastic mountings will be employed, since they are already in quantity production in the U. S. Experiments were being made to produce this plastic in colors. The trend is toward more compact streamlined sets — all equipment in one shiny molded mounting.

Consideration was also being given to the introduction of time and weather announcement services.

Restore Dial Program

In the ten-year period following the war it is probable that at least 30 common battery manual exchanges and over 100 small magneto offices may be converted to dial operation, making 93% of the Bell Company's telephones dial, as compared with 72.3% at present.

Large offices to be converted by the Bell include Montreal York, Ottawa No. 8, and the two offices in London—Fairmont and Metcalf. Medium-sized offices in Ontario include Belleville, Brantford, Chatham, Cobourg, Cornwall, Galt, Guelph, New Toronto, Niagara Falls, North Bay, Orillia, Oshawa, Owen Sound, Paris, Pembroke, Sarnia, St. Catharines, St. Thomas, Sault Ste. Marie, Smiths Falls, Stratford and Thorold.

Those in Quebec include Joliette, Lennoxville, Levis, St. Hyacinthe, St. Jerome, Sherbrooke and Three Rivers.

Dial operation has already been extended to certain important long-distance facilities, so that, for example, an operator in Montreal can dial a number in Toronto directly, without having to pass on the number to the Toronto operator, this speeding up intercity connections. Although the prospect of nation-wide dial service seems very far distant, it opens up immense possibilities to the imagination.

Extend Carrier Telephony

Within the past decade carrier telephony has been applied to circuits in cable, which protects lines against storm damage. The new Montreal - Ottawa underground cable which will be extended to Toronto if priority can be obtained for materials and equipment is designed for the later installation of 20 12-channel carrier systems in addition to the regular wire circuits.

Coaxial cable, the "wire in a tube" which permits transmission of frequency bands a million cycles wide, and methods of compressing the band of frequencies required for a single voice channel without distorting the speech, may permit an almost limitless multiplication of inter-city telephone circuits in the future.

The coaxial cable is also capable of accommodating the very wide range of frequencies required for television but the commercial applications of television are still in the experimental stage.

New Atlantic Cable

The American Telephone and Telegraph Co. is considering the feasibility of laying a transatlantic telephone cable after the war to supplement the existing radio channels for overseas service. The latter will undoubtedly be extended to provide communication with the few countries which were not within reach of the Canadian telephone user in 1939, such as Soviet Russia and Soviet Russia and New Zealand.

The possibility of providing radio-telephone service to motor cars and boats on inland waterways is a subject for early consideration.

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5. If the operator can't complete your call promptly, stay within reach of your telephone, ready to answer when it comes in.

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Electronics Today and Tomorrow

War-Famous Devices Have Peace Uses

Engineers Cautious on Universal Household Applications

While the war has stopped production of many of the ingenious contrivances which did so much to give North Americans the highest standard of living in the world, development of such things, instead of being halted, has actually greatly increased.

This is especially true of the field of electronics where almost incredible progress has been made in the last eighteen months.

This progress, of course, has been largely due to war and much of it is on the secret list, but it is beginning to be known that a great deal of it, and some immediately, can be readily adapted to peacetime uses when the war has been won, men close to recent developments tell The Financial Post.

Stripped of scientific jargon electronics may be described simply as the control of electricity through vacuum, or gas-filled, tubes. Commonest examples are the tubes in the ordinary radio.

The last war witnessed the development, which in a few years after peace, led to the general adoption of radio all over the world. The present conflict promises even more astounding results and from the same base, namely the vacuum, or gas-filled, electric tubes.

Not Ready For Homes

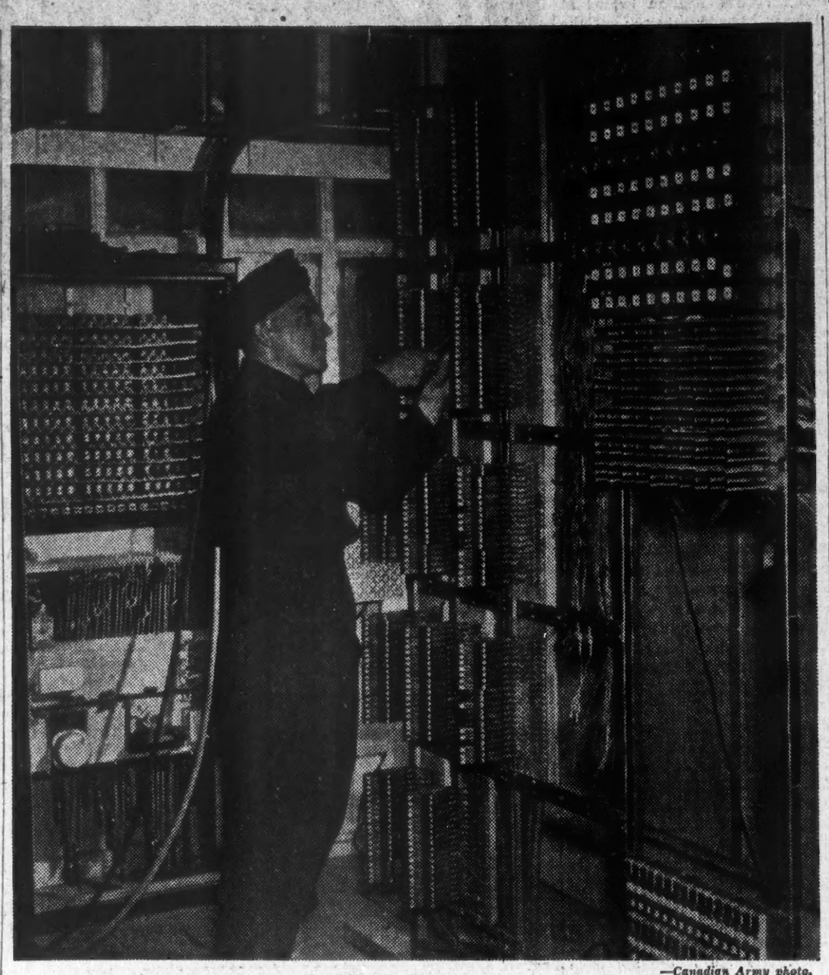
Research authorities warn, however, that these results must first appear in the fields of industry and commerce rather than in consumer products like household appliances and gadgets.

Reason for this is simple. Already new processes and new goods based on electronics are being widely used in the production of war materials and will continue to be used when the manufacturers of those materials turn to peacetime production. The demand of the mass market has already been developed and the incentive provided for continuous improvement. But in the field of household appliances that is distinctly not the case. The market and demand must be developed after the war and this may take some time, trade sources suggest.

Moreover, many of these new processes or goods, while quite practical for use or installation in big factories are too large, too costly or are not sufficiently foolproof for general installation in the average home. Eventually the time will come when through various electronic devices our houses, even in the depth of winter, will be healthier places to live and a great deal more convenient. But this era is not just around the corner.

Will Save Lives

In the fuller development of radio there has been spectacular news. All the details of the electronic devices which warned British defenders of hostile planes long before the eye could see them or the ear hear them have not been revealed. Sufficient has passed the censors, however, to assure us that travel by air and sea is going to be very much safer in the postwar world.



—Canadian Army photo.

In army as in civilian life the telephone retains its place as the chief communications means between fixed positions such as training and administrative centres. Required equipment often equals that of a small city — as at Petawawa Artillery Camp where the system installed is one of the largest of its kind on the continent. Its maintenance is the responsibility of the Royal Canadian Corps of Signals, one of whose members is here seen adjusting new circuit equipment.

Ingenious devices, based on electronics, are already serving war, industry and civilian life. Their development is progressing at rapid rates and after the war they may easily result in a better world in which to live. They serve the fields of communications, X-ray, open doors and eliminate dust from the air. Electronics—control of electricity by vacuum, or gas-filled tubes — may some day heat our houses and make our household electrical appliances useable under practically all conditions of electrical current. But engineers caution that some of the optimistic statements recently seen regarding their application should be discounted and that universal vacuum tube control is still far off.

With radar detecting apparatus, which is simply a tube sending out rays which rebound from solid objects ahead, above or below, there should be no more night crashes of aircraft against mountain sides, no more piling of steamers on unknown rocks and no more halting of either transport by dense fogs.

Long before this war radio was used as a navigational aid, both on ocean shores and inland waters such as the Great Lakes. The radio "beam" on which peacetime transport airplanes depended was of this nature.

Sight and Maps Unnecessary

It has been disclosed that had it not been for such devices the American forces could never have landed on fog-bound, rock-studded Attu Island. Despite the lack of adequate maps this detecting apparatus allowed ships to manoeuvre safely around rocks, plow through fog and come right up on the beaches to surprise the Japs. And radar will perform a similar service wherever invasions are planned against uncharted coasts as they will have to be with the enemy strongly holding the regular harbors.

Radar has played a major part in the amazing improvement in accuracy of naval shelling in this war. Italian ships at the battle of Matapan and Jap ships in the Pacific, have been sunk on the second salvo from unseen United Nations men-of-war in the dead of night.

Electric Eyes

In recent years children and their elders have been mystified by doors that open automatically as they approach. Mechanism is operated by the so-called electric eye, a small tube that throws a beam of light, sometimes visible, sometimes not, across the doorway. Interrupted by the approaching person, this beam then operates a switch which opens or closes the door.

Normal application of this device proves an interesting advertising stunt but other applications serve a much wider field. The electric eye is and can be used in burglar alarms, as warnings that the furnace needs attention, or tempering metals are getting too hot or too cool. It can be used for opening farm gates or garage doors, for counting parts in industrial manufacturing or detecting flaws. Hitched to automatic mechanical devices the electric eye will not only detect but correct.

X-raying Castings

The well known X-ray is another process based on electric vacuum or gas-filled tubes. It used to be largely confined to medical use in well-equipped stationary hospitals. Now large portable outfits operating from trucks are serving advance field hospitals and will be available for general civilian use after the war and this is not all.

Large tubes have now been built capable of handling a million volts. These are used to detect flaws in huge castings for guns, ships, locomotives, etc. Before the big industrial X-ray, hidden flaws went undetected until the gun was fired or the ship's engine put in operation, a rather costly and sometimes fatal trial and error practice.

Miracle in Welding

Electronics have come prominently into the field of welding in the last few years and promise to work still more miracles in the months ahead. Not so long ago heavy seam welding at the rate of 15 inches per minute was considered a good speed. A special tube, controlling current and welding cycles to a split second, has stepped up this speed to 160 inches per minute.

Moreover, welding of many light metals like aluminum is now practical. Had this new type of aluminum welding been developed just a little earlier, it is quite possible that much quicker built, all-welded, instead of riveted, planes would now be pouring off the assembly line on this continent.

Not only has welding been greatly speeded by the aid of electronics but the operation has been simplified to the point where almost unskilled help can turn out a perfect job. Special war application has been used in the production of carboloy tools. These are based on a new, sometimes brittle metal, so hard that cutting surfaces must be finished with diamond dust.

How to fasten carboloy tips to the ordinary steel cutting tool constituted a rather difficult war production problem. Brazing or ordinary welding was slow and difficult. Now a girl operator simply paints solder flux along the joint, sticks the tool in an induction coil where heat is controlled by an electronic tube and the job is done perfectly in a matter of seconds.

Specialized Heating

This type of specialized heating is also used for steel shafts parts of which must be specially tempered. Under the old conditions by the time one end was heated sufficiently the whole bar might be red hot and ruined or at best most difficult to handle. Now so quick and controlled is the heat that any part can be heated almost to the melting point with little noticeable increase of temperature all around.

This same controlled heating is also used in producing plywood, used in building fast planes and for other purposes. Here, due to the perishable nature of the product handled, heat must be very carefully controlled and yet is absolutely necessary for molding the plywood to its various shapes.

Cycle Changing

For certain specialized purposes, and particularly in steel and other metal working factories, the ordinary alternating electric current as supplied generally by the power companies is not the right type required. Many of these have to use direct current, or some of them may need an alternating current of a cycle not generally supplied. Formerly installation of bulky, expensive and complicated converting apparatus was necessary.

Especially built vacuum tubes now can do the job at substantially less cost and they occupy only a fraction of the space of the old conversion stations. As a result of this development some engineers now believe that these simple current changing devices may be attached to individual machines though they are doubtful of application for household appliances.

Dirt Removing

In the latter field much work of adapting electronics to new uses remains to be done. Heating houses electrically through the use of induction coils, is not considered feasible yet. Killing germs electrically is also probably in this class.

Electrical engineers, however, are fairly hopeful of household adaptation of the present industrial device of cleaning dust particles out of air. In certain commercial buildings, where dust is a problem, air is passed through a highly electrically charged field where dirt particles are precipitated instantly and the clean air then passes along to be moistened and redistributed. Periodically the electricity is turned off and the cleaner chamber washed out with a hose. Small cleaners to be attached to residential air-conditioning units may make their appearance shortly after the war.

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Wartime Communications

Telegraph Traffic Tightened

An Essential Service Carries On Under War Pressure

Since outbreak of hostilities Canadian telegraph systems have been faced with a steadily rising demand for their varied services. Now as the fourth year of war draws to a close acceleration in this demand, far from slackening, appears to be still on the increase.

Notwithstanding the increased demand for services, additional facilities required have been provided for the most part without the erection of new copper wires. Thousands of miles of wire have been transformed from circuits of low message-carrying capacity to circuits of high capacity. Many miles of existing wire have been removed from sections not vitally necessary to the war effort and restrung in locations where traffic load has required it. Carrier and other equipment have been transferred from less important to more important points. In short, the telegraph systems as a whole have been tuned up to a higher pitch of efficiency. These rearrangements have contributed much to the conservation of the metals of war.

Labor Shortage

Operation of a modern communications system with all its intricacies is for the most part a job for highly skilled specialists requiring many years of concentrated training. However, there is in support a large group of less skilled occupations without whose aid the services would be ineffective. Depletions in staffs due to enlistments in the armed forces, transfers to governmental organizations and losses to the more remunerative work in war plants, have imposed a heavy burden on the telegraph organizations.

Airways Network

The phenomenal expansion of commercial and military flying has given rise to the establishment of flying fields and training schools from coast to coast, and from this country's friendly southern boundary far into the frozen north. This in turn has necessitated creation of a vast communications network, linking all into one compact unit.

Train Despatching Facilities

Long before commencement of the war, railway companies were equipped with an extensive and efficient long distance train despatching telephone system, serving all main and a large proportion of branch lines. This was a very important factor in enabling them to cope efficiently with the tremendous wartime traffic. Certain extensions to the system have been necessary, of course, in some sections. In addition, full advantage has been taken of improvements in telegraphy to permit greater centralization of despatching work, with substantially enhanced safety and speed in the handling of rail traffic.

Carrier Current Systems

Carrier current telegraph systems have been in service in Canada since 1927 and were, of course, in general use prior to the outbreak of war. During this period carrier systems advanced from the provision of 10 telegraph channels and one long distance telephone facility to the provision of 42 telegraph channels and a long distance telephone or broadcast transmission circuit on a single pair of wires. Over each telegraph channel so produced messages may be transmitted simultaneously in both directions at 60 words per minute, or, in other words, 84 messages may be sent simultaneously over a pair of wires. As a matter of fact by the use of multiplex equipment this capacity can be still further increased.

Telegraph communications in Canada under pressure of war have shown their mettle in facing up to lessened mechanical supplies, labor shortages and increased burdens. In some places telegraph engineers have removed miles of existing wire from sections less needy and shifted it to places where the traffic load is greater. They have supplied services to the armed forces and government and news gathering agencies and done it with little expansion of existing equipment.

The past four war years have not been conducive to development, but the application of such systems has progressed by leaps and bounds and "carrier" has been the mainstay in enabling telegraph communication companies to carry the load of wartime communications. Should the demand require it, a system having a still higher message-carrying capacity is commercially available which will furnish 15 carrier telephone channels on each of which may be superimposed 14 telegraph channels, all on one pair of wires. Not even the demands of war have so far rendered installation of such systems necessary in Canada.

Despite limitations on securing necessary equipment for development purposes some progress has been made in the field of frequency modulated radio transmission. No doubt at the close of hostilities this will become a much more important factor in the general field of communications.

Outside Plant Affected

This "piling up" of one channel upon another, increasing the range of frequencies to be operated over the wires, has not been accomplished without its repercussions on the pole and wire lines. In the earlier stages of communications a pole line had done its duty if it held the wires off the ground. Poles were located with this function chiefly in mind. Now many thousands of miles of telegraph pole line have been accurately measured and each individual pole located in accordance with a precise engineering design.

The wires of a pair on which carrier systems are to be operated must have their positions on the pole interchanged with systematic regularity at intervals of the order of 400 to 1,000 ft. When systems providing a large number of channels are involved the wires of a pair must be brought close together and separation between pairs increased. Old forms of insulators have given place to new. Wire joints which may have been entirely satisfactory for Morse telegraphy bar passage of carrier currents and must be replaced. The design of cables through which the circuits must be carried in towns and villages has increased in complexity and must be provided with "loading."

It is in this field of rearrangements and modernization of the outside plant that four years of war has wrought its greatest change in the communications plant.

Ears of the Fighting Forces

(Continued from page 13)

ceiving and transmitting set carried by the soldier of today and the prewar portable receiver highlights the accomplishments.

The fact that wartime communications can permit no mistakes or *misunderstandings* has *meant* that the buzzes, fuzz and other interference noises all too common in ordinary peacetime standards have to be eliminated. Selectivity is an absolute battle requirement which many experts feel could readily be incorporated into peacetime radios.

The story of the use and manufacture of quartz crystals in a Canadian plant in this war is a romance in itself. These crystals are largely responsible for the selectivity and accurate semi-automatic controls of military radio.

Canada today becomes a major source of signals and communications equipment for the United Nations. Canadian-made equipment is in service in Russia, New Zealand, Africa, Near and Middle East, Great Britain and other war centres. Canadian factories each month produce radio and electrical apparatus to a value of $20 millions.

Much of the story is secret and will remain so until after the war. But enough can be told today to indicate how from small beginnings, the signals and communications program have expanded to a point where it is now sixth on the Canadian war output roster from the standpoint of annual dollar value of production.

Covers Wide Range

Requirements of the armed services call for many thousands of pieces of equipment. Wireless sets and their components make up the bulk of production, but the contract and list covers the entire range of modern communication devices from telephone, telegraph and teletype supplies to the latest and most secret development of radio-location and detection apparatus.

ONE DAY'S OUTPUT

Field cable, miles	188
Cable layers	6
Amplifiers	57
Control units	77
Signalling lamps	84
Charging sets	61
Generator sets	4
Radio receivers, various types	33
Telephone switchboards	29
Transmitter-receivers	186
Radio transmitters	6
Installation kits for vehicle receivers	10
Wave meters	10
Control cubicles	2

Although the actual list of equipment types run to a little less than 100, one type, such as a complete wireless set, may include transmitter and receiver units, power units, generator sets, charging sets, batteries, earphones, microphones, remote control equipment, antennae, insulators and spare parts. One type of vehicle set has 6,000 parts.

Obviously production of spares alone runs into astronomical figures. Maintenance and repair of signals equipment is a major production and supply problem in itself.

The whole program is co-ordinated by the Signals Production Branch. Bulk of the output comes from the Canadian radio industry, which has expanded its volume by 1,600% since the outbreak of war; from electrical equipment manufacturers, from Research Enterprises Ltd., a government-owned company established to develop and to manufacture secret equipment and now having a monthly output value of $5 million.

Success of the program is largely dependent upon hundreds of small supply plants in Canada and the United States which furnish small parts for assembly in the larger factories. Scores of these plants have been converted from non-essential production just as the radio industry itself has been converted 100% from civilian radio output to war production.

British Designs Adapted

Canadian industry proved its ability to meet the urgent requirements of service specifications when a trial order for 200 British Number 1 radio sets was placed in Canada in 1935. Much of signals equipment now being made in the Dominion has been adapted from British designs and re-engineered to suit Canadian manufacturing methods and facilities. From a small beginning the whole program has grown until it is now at its planned peak with producers working on about 4,500 major and 1,200 smaller contracts.

Design and development of most major pieces of equipment have now been stabilized and any new developments will be done jointly by Canada, Great Britain and United States having in mind the desirability of standardization and interchangeability.

In Canada a special committee is at work standardizing packing, shipping, metal finishes, paints, and vacuum tubes, between the armed services, the Association of Canadian Broadcasters the Department of Transport and the Merchant Marine. This is expected to pave the way for further standardization of equipment.

Vehicle Wireless Sets

Biggest single feature of the program from the volume standpoint are the general purpose vehicle wireless sets used to equip tanks and armoured fighting vehicles of the Allies. British designs provided the basic start, were re-engineered in Canada, and the sets are now being made in three large Canadian plants at a rate of several thousands monthly.

Such sets must withstand temperature variations from 50 deg. below zero to 150 deg. above. They must operate under varying power conditions, withstand the jolting and pounding, serve for communication between members of the tank crew, for short range communication with other units in the field and for long range communication with headquarters. In particular they must combine compactness with simplicity of operation. Similar standards must be carried over into the manufacture of aircraft communications equipment while marine equipment must be specially designed to withstand corrosion and humidity and to prevent radiation which might betray the location of the ship.

Research Facilities

Canada has become sole producer of certain secret types of ground and air detection apparatus of a most complex nature, a reflection of our excellent research facilities. Research and the development of new ideas play an important part in any signals production program as do laboratories and experimental shops.

Continued research is being carried on in development of substitutes for critical materials, such as ruber, steel, aluminum and copper and good progress has been made in developing synthetics for insulants and plastics to replace certain materials under high priority.

Emphasis on Performance

Extremely significant, however, is a recent change from a frantic search for substitute materials to emphasis on quality of production. It is generally admitted and recognized that many substitute materials do not provide the service standards which might be desirable if other considerations did not have to be placed first. Thus the fact that Canadian manufacturers of this equipment are now able to stress performance rather than substitution is a significant indicator of improved general supply conditions.

In achieving these objectives all possible sources of supply have been tapped. Subcontracting has been carried to unusual limits.

It has taken in a metallurgical research; established manufacturers enter into it; engravers are doing a task; furniture manufacturers and plastic makers all play a part. Gold and silver plating is required for certain operations.

The demand spreads into every branch of industry. The ceramics industry and the rubber industry play vital roles. Entirely new businesses have been established as, for example, the manufacturing of the new insulating material, stealite, by a company in a small Ontario town. Never made in Canada before, this product utilizes California talc but searches are now going on for a satisfactory Canadian source of raw material.

War Demand Without Limit Ushers New Era

(Continued from page 13)

the sky and on the sea, reducing greatly the dangers of many forms of travel.

A War Secret

But although many of the possibilities of electronics are already known, the "most important secret of the war" has been kept so well under wraps that even many of those working on its production have little knowledge of what the end product looks like or what it can do. Electronics is also the best kept secret of the postwar—a potential high explosive that may revolutionize our industry and our ways of living.

Molded plywood is another of the great dynamic forces, one which may show its effects more rapidly than the esoteric techniques of electronics. Today Canadian boat builders and plane builders have something of a monopoly of the use of plywood. In their plants and in many plants of furniture makers turned war producers, plywood is being shaped and "frozen" into airplane wings and fuselages, boat hulls and superstructures. In many cases the work is being performed to tolerances formerly the exclusive domain of the metals trades. Yet while the skill and workmanship has to be of the most advanced nature, the basic technique is simple. Main ingredients for molding plywood are a mold and a rubber bag in which to shrink the plywood, plus a few infra-red lamps to dry it permanently into shape.

Manifold Uses of Plywood

Great advantage of molded plywood is that it will permit mass production of furniture, pleasure boats and other small craft. Some redesigning will undoubtedly feature the shift to this material, specially selected plywoods being necessary for some of the operations, and there may be some sales resistance to overcome in merchandising the new products.

But the labor-saving involved will be tremendous, and may bring substantially lower retail prices. For example, it is estimated that a canoe, equal in performance to the best now obtainable, could be made and sold for not much more than $25, depending largely on the number produced, in contrast with the present price of $100 and higher for a first-grade can e built by skilled craftsmen.

Reduce Plastics Prices

Some of the other materials which have made their appearance will occupy less certain roles in the postwar world. With plastics, for example, current prices are a barrier to very widespread application, but prices are constantly being reduced and the qualities of plastics improved.

PIONEER WORK FOR CANADA IN THE MANUFACTURE OF

SHELL

NATIONAL STEEL CAR has done pioneer work for Canada in the manufacture of shell. Three years before the war, a test order was secured from the British War Office, based on the use by National Steel Car of new and modern methods. As a result of the Corporation's initiative and foresight in this matter, when war broke out, intricate machines, which had been specially designed for the system worked out by National Steel Car, were available for other manufacturers who were able to study and use the National Steel Car plant, in full operation, as a model for their own production.

Another important result of the modern shell manufacturing methods introduced by National Steel Car, was a reduction in the cost of shell, as compared to the war of 1914-18, of approximately one-half! Two shells in 1943 for the price of one in 1918!

Management, workers, and capital at National Steel Car are all proud of the contribution the Corporation is making to Canada's war effort. Shell — over 14,000,000 of the finest — are only a part of the story. In every department, men — and women — are working their hardest to provide the tools to beat the Axis.

NATIONAL STEEL CAR

Corporation Limited

HEAD OFFICE: HAMILTON — SALES OFFICE: MONTREAL

BUILDERS OF TRANSPORT FOR CANADA

National Steel Car products serving Canada:-

SHELL CASINGS FOR THE BRITISH EMPIRE AND U.S. FORCES — ANTI-AIRCRAFT GUN MOUNT PLATFORMS AND SEMI-TRAILERS — PARTS FOR ARMY TRUCKS — STEEL STAMPINGS AND PRESSINGS FOR ARMY UNIVERSAL CARRIERS — MISCELLANEOUS PRESSINGS FOR 6 POUR GUNS — MISCELLANEOUS FORGINGS FOR 6 POUR GUN — ARMOUR PLATE PRESSINGS AND FORGINGS FOR TANKS — LIGHT ALLOY FORGINGS FOR AIRCRAFT — LIGHT ALLOY AND STEEL DROP FORGINGS FOR AIR-CRAFT — HEAVY ALLOY STEEL DROP FORGINGS FOR GUNS — ALLOY STEEL FORGINGS FOR THE NAVY — ORE CARS FOR IMPORTANT MINING INDUSTRY — GUN COTTON CANS — DIESEL LOCOMOTIVE TRANSFERS FOR STEEL MILLS, HARBOURS AND RAILWAYS — MISCELLANEOUS RAILWAY PASSENGER AND FREIGHT EQUIPMENT

A *TELEGRAM* GETS IMMEDIATE ATTENTION

Urgent instructions, orders for materials and supplies, inquiries for information . . . these are more frequent and more vital today than ever before.

When you telegraph your message, you increase efficiency in three important ways:—

1. You save precious time by quick delivery.
2. You provide a record for future reference.
3. You get immediate attention.

Next time, "send it by wire" . . . for best results.

CANADIAN NATIONAL *Telegraphs* CANADIAN PACIFIC

FOR SPEED AND ECONOMY

Weatherman and War

Forecast: Tomorrow Brighter

Meteorological System Due For Even Bigger Service

A good weather forecast, any citizen will tell you, is often able to post him on whether there will be generally fair days or generally foul for his summer vacation, or snow for Christmas, but ask him about the present military and future industrial value of meteorological forecasting and he won't be found as well informed.

There seems little reason why he shouldn't be.

Essential to the waging of his war in the air and helpful as well in land and sea attack, the wartime physical expansion and technical advance of Canada's weather services also have rich meaning for him in farming, forestry and fishing, in transport, merchandising, power distribution and building management, to name but a few of the peacetime pursuits ever at war with the elements.

Tomorrow, agricultural production and processing will have the advantage of broader and more accurate weather-posting than was available before war-mushroomed aircraft development put ginger into the staid business of meteorological observation, multiplied its stations and observers, improved its technique of analysis and reporting, and hastened adoption of such mechanical aids as the radiosonde device for fact-and-future-finding ten miles above the earth, and the teletype communication system which today immeasurably speeds communication of the results.

Field is Widening

Postwar possibilities appear as wide as the Dominion and as high as the stratosphere.

British Columbia's orchard-heating defense against frost-blight may be found, through forecast precision, to be adaptable to general use; certainly pest sprays may be applied by fruit growers generally with better weather-timing.

Transportation of perishables, foods especially, will be more safely guided as to temperature extremes, while winter traffic management on rail, highway and in the air will be simplified by clearer foreknowledge of icing, snowfall and thaw conditions.

Forecast conservation will be more effectively aided through increasingly accurate forecasts of wind velocity and precipitation, and of conditions that produce forest fire hazard.

These are only some of the advantages to be gained by business and industry out of the wartime expansion of Canada's weather science, as seen by sober-minded but enthusiastic meteorologists.

Wide-scope studies will bring new navigational aids to shipping and the fisheries.

Synchronization with the weather will be more nearly complete in the realm of marketing and merchandising.

Out of air expansion for war into air conquest of the peace is the powerful suggestion of Canada's new story of meteorology. Building for victory has laid foundations for wider peacetime service.

Division of Transport Dept.'s Air Services Branch now offers service basic to future airways expansion.

Half a dozen other major fields are concerned with what better and broader weather forecasting can do for industry on the ground.

Its cost reduced to a bare $15 per unit by the Canadian weatherman's enterprise, the "radiosonde" device has gained astonishing growth in use as a 20th century essential of accurate meteorological observation at 10-12 mile altitudes.

In home and building management it will be more nearly possible to forestall temperature surprises during the semi-heating months; in electric power distribution, to anticipate sudden loading due to overcast.

Air Future Biggest

But the most important advantage accruing to postwar Canada from wartime weather-finding development undoubtedly is the fact that we now have, ready and manned, navigational aids essential to prominent place in tomorrow's world skyways.

Wartime growth of bulk and function of the Meteorological Division of the Transport Department's Air Services Branch is due to its having been required, on short notice, to provide weather service and weather training for the Commonwealth Air Training Plan.

Another considerable factor is the demand made upon the weatherman by the Bomber Ferry Command's transatlantic service. Still another, is development of radiosonde.

When war broke out, the Division (now part of the Transport Dep't Air Services Branch) had about 190 on its staff. There are over 700 today, according to Controller Dr. John Patterson, Toronto.

Weather Schools

Canada's university of the air has a faculty of meteorology.

RCAF air training schools across the southern fringe of the country not only have been chief consumers of new-trained civilian weather personnel, but in turn promise to be main contributors to manning postwar ranks of skilled Canadian observer-forecasters.

Meteorological Division, Dr. Patterson tells The Financial Post, has set up schools of weather within these schools of flying and in some of these it has posted as many as five highly skilled instructors.

The setup doesn't include elementary flying training and certain other types of CAT establishment but does take in most of them, and the largest, such as service flying training, operational and general reconnaissance units, observer and navigation schools.

In each of these air-weather schools two functions are fulfilled.

One is to teach young airmen the fundamentals of weather and how to combat its exigencies; the other, to provide the up-to-the minute local forecasts upon which RCAF navigation officers are heavily dependent for flight training, etc., and upon which ground maintenance crews place much reliance.

Teletype Tie-Up

To provide such service, the station forecaster receives observations from the greater part of North America by means of teletype telegraphic communication. From these, and with the assistance of basic forecasts received over the teletype from airways forecast centres, he prepares his maps showing weather situations.

While teletype is by no means a new communication method its applications on so wide a scale to flight training is considered a development of real significance for peacetime weather service.

The Division already had excellent coverage in observation stations throughout the country—a trans-Canada chain of radio range stations was built before the war for civilian beam flying and these were also used as weather stations—but addition to the system of the weather, schools at air training establishments represents further material expansion.

Other War Service

Wartime services of the Division embrace the Atlantic bomber ferry system of seaboard bases and the ferry command has been a large and grateful consumer of accurate forecasts on above-sea atmosphere conditions. When a ferry crew lifts its ship from Newfoundland and Labrador, it does so because weather-timing in large measure has made regular trans-oceanic flying possible.

When the secret code talk of short wave radio reverts to plain English and, far from being under ban of the censors, weather information is disseminated ever more widely, civilian pilots, lake captains and a host of other transport and business "helmsmen" likewise will work more happily with the weather.

Regular service of the system is provided coastal commands of the RCAF, as an aid to patrols, while the Navy and Army also are frequent "big customers."

U.S. a Participant

As a participant with Britain in the transatlantic ferrying of planes, the U.S. has built and manned many an observation station and reporting office in the region of the Atlantic northeast ferry route, has co-operated with Canada in the establishment of others, and, in its own stations, has been a big consumer of weather reports from the whole of Canada.

Joint U.S.-Canada development of the Canadian Northwest as an Alaskan link and road to Tokyo has involved building of meteorological stations along the route of the northwest airport chain, as well as along subsidiary flying routes which feed it.

Canada has radio stations along the east and west coasts of Hudson Bay and Hudson Strait and there are radio-flying bases in the central far north of which nothing will be told until peace.

All these stations play a part in the increasingly broad and accurate weather forecasting of which Canada is now capable.

Technical Advances

Discussing recent technical advancement in weather sounding and forecasting, Dr. Patterson tells The Post that meteorologists the world over are rapidly escaping the statistical method of forecasting.

"We know today vastly more about the physical structure of the atmosphere, and about its workings. We are profiting accordingly as regards accuracy of forecasts."

The Controller readily admits that range isn't lengthening rapidly but thinks it will develop over the years and in stages of a day or two at a gain.

Radiosonde

Radiosonde, the "white-headed boy" of modern meteorology, had developed as a practical instrument by 1936-37 and was first tried by Canada in 1941. It has afforded forecasting its all-time greatest mechanical aid.

Incidentally, simplification of the instrument in Canadian use has reduced the unit cost to about $15 and with results equal to costlier equipment, Canadian weathermen tell The Post.

Before aircraft, meteorologists were confined to surface observation. Even with wide use of planes for observation, altitude limitations placed a lid on the effort and, in bad weather, when some of the most effective observations can be taken, grounding of aircraft was another.

With observation now common at 10-12 mile height by means of radiosonde, aircraft need no longer be employed for this work.

Unlike the small free balloon with meteorograph attachment, ideological parent of radiosonde, conditions aloft are reported instantaneously. In the old days, the balloon-borne meteorographs ordinarily were recovered a week or month or even a year after release, and their recording more often than not were received too late to afford an accurate basis for forecasting.

Best Tool in Trade

While radiosonde is only one of several special methods it is certainly the most important.

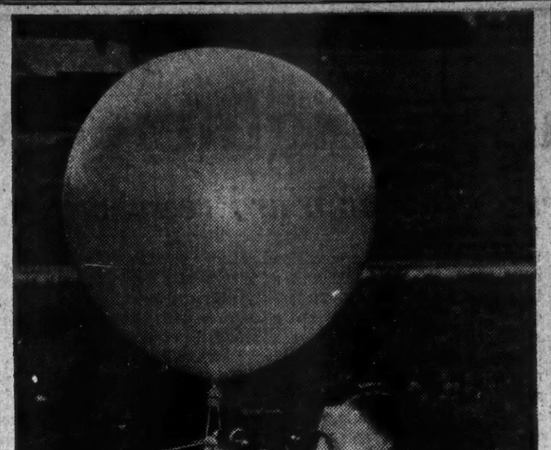
There are various ways in which tiny radios can be sent aloft to provide weather information. The Dominion Meteorological staff has selected the simplest possible.

No bigger than a paving block but a good deal lighter, the balloon-borne Canadian radiosonde has been known to attain heights near 70,000 ft. but always goes high enough under any pressure conditions to provide more than the required information.

Each instrument is calibrated separately so that if a sufficiently powered enemy receiver were able to tune in to it, he would get only a confused jumble of code.

With the automatic ground recorder attuned to it, and read in accordance with its individual calibration sheet, radiosonde sends down messages every 15 seconds of its 1,000 ft.-a-minute ascent and each message gives temperature, humidity and pressure at that point.

When its carrying balloon finally bursts due to low air pressure, the instrument floats down on a parachute and, inevitably, most of them are lost, which is perhaps the most important fact attaching to the Canadian development of a $15 unit cost.



RCAF photo.

One way science has gone to war is illustrated by this picture of an RCAF meteorological observer with his balloon and optical instrument for testing upper winds, their direction and velocity. On release, the balloon is observed on its upward course until out of sight. As the speed with which it ascends under perfect or motionless air conditions is known, any deviation from normal permits a reading indicative of what is popularly called "flying ceiling" and visibility.

Rail Engineers Solve Large Shipping Problem

Evolve Depressed-centre Flat Cars for Moving Mammoth Tanks and Marine Engines to Centres of War Industry

Depressed-centre flat cars have helped the Canadian Pacific Railway to overcome the problem of moving outsize and odd-shaped shipments vitally needed in Canada's war effort. These cars, largest in Canada, were utilized on such shipments as a 134-ton transformer. They also were the only cars big enough to carry a 150-ton tank, 165 ft. long and 12½ ft. in diameter—from Lachine, Que., to a synthetic rubber plant in Sarnia, Ont. Smaller depressed-centre flat cars handle corvette boilers, while machinery flat cars carry welded-steel boats.

On all such shipments the engineering department gives special directions for temporary removal of certain permanent installations and for raising and lowering of loads to pass other obstacles.

These special flat-cars have seen international service in this global war. Two of them were on loan to handle marine engines from the American Locomotive Co. in Schenectady, N.Y., to a Portland, Me., shipyard. At present two others, on loan to the Milwaukee Ry., are getting marine engines to the tremendous Kaiser shipyard development in Vancouver, Wash.

The special flat cars used in transporting the mammoth tank from the Dominion Bridge Co. in Lachine to its place in producing synthetic rubber are 53 ft., 8 in. long; 8 ft., 4 in. wide and can carry a maximum load of 135 tons. The depressed portion of the car measures 22 ft., 7 in. of its length and puts the loading platform 2 ft., 7⅜ in. from the top of rail, a decided advantage in outsize or odd-shaped war shipments which cannot be handled on ordinary equipment and still have clearance for bridges, signals and telegraph wires. In the rubber tank shipments two of these huge cars carried the load with a smaller car in the centre acting as an idler.

Special features offered by these large depressed-centre flat cars include a body made of a single steel casting and all-steel floor sheets to give added strength. They have six-wheel trucks, instead of the four-wheel trucks common to most freight equipment, and are equipped with axles 6½ in. by 12 in.—the largest available. Some of the passenger-type equipment on these trucks includes clasp brakes and separate journal boxes and equalizers. There are two air brake cylinders and hand brakes at both ends of the cars. Every four feet on the platforms provision is made for securing the cables and braces needed to strap special loads in place.

One boat, of electric-welded steel construction sent from Owen Sound to Saint John, N. B., required two machinery flat cars. The 61 ft., 6 in. craft was loaded on one 45 ft. car with an overhang onto the other. The boat was 12 ft., 10 in. wide at its maximum width and precautions were needed to give it clearance.

In these special shipments the engineering department has the job of giving special directions. This department has on file diagrams showing all obstructions—such as bridges and other permanent installations—which must be passed. Its special orders telling where stops must be made to jack up the loads or lower them and where signals must be removed temporarily help get these important shipments to their destination with the minimum of worry. The engineering department also specifies that such shipments must travel at slow speeds and in daytime only and notifies the operating department that adjacent tracks must not be occupied by equipment of more than standard width.

Optical Glass Goal Doubled

"Research" Plant Covers 55 Acres, Employs 7,000 on Secret War Weapons

Research Enterprises Ltd. was incorporated on July 20, 1940, to provide facilities for manufacture of secret war equipment developed by National Research Council, and for production of optical glass, fire control instruments, both optical and electrical, and electrical devices required by the Navy, Army, and Air Force. Today, more than 7,000 men and women, once inexperienced in this industrial field, have learned well an intricate new trade.

400% Increase

During 1942 monthly output rose 400% to the point where it was five times as great as that called for under the first schedules.

The original group of buildings planned for Research Enterprises Ltd. occupied 3½ acres. Total acreage of the company's property at Leaside, Ont., is now 55 acres, total floor area of the various buildings being approximately 750,000 sq. ft.

Orders for radio and optical equipment amount to tens of millions of dollars, more than one third of which has already been produced. This includes large quantities of prismatic guns, clinometers, telescopes, periscopes, rangefinders, dial sights and cathode ray tubes.

DEFENCE COMMUNICATIONS

Defence Communications Ltd. was incorporated as a Crown company on April 3, 1943, to coordinate certain telegraph, telephone and other communications systems in Canada on behalf of the armed forces. The company also provides additional equipment for these facilities. Head office is in Montreal.

● The Air Force, the Army, the Navy and munition factories need typewriters NOW.

Typewriter factories are almost totally engaged in ordnance production. So the typewriters required for Canada's war effort must come from offices like yours.

We will buy used machines (Royals preferred) at prices, including a premium, authorized by the Wartime Prices and Trade Board. These typewriters will be reconditioned and placed where they are most needed.

You can help to relieve the typewriter shortage in two ways: 1. Release any typewriter you can spare. 2. Conserve the machines you must keep by adopting one of Royal's Life Extension Plans for Typewriters. Get in touch with us or your nearest authorized Royal dealer.

ROYAL TYPEWRITER COMPANY LIMITED

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Authorized Royal Dealers in principal cities across Canada

169A

THE SUN NEVER SETS ON THE WILLYS JEEP

U. S. MARINES CRASH SOLOMON ISLES

IN JEEPS FROM WILLYS-OVERLAND

On the shores of Guadalcanal and on the beach at Tulagi Bay, fighting U.S. Marines used tough, battling Jeeps to add new drive and mobility to a striking power already famous throughout the world.

There these rugged Willys-built Jeeps played a part in the ensuing process of clearing the jabbering Japs out of the jungles and winning for the United Nations additional strategic bases for further advance in the Pacific.

Three motor manufacturing companies, working in close collaboration with Army Service Forces, originally submitted models of the ¼ ton 4 x 4 reconnaissance truck for test. The Jeep produced by Willys-Overland engineers was selected as a vehicle for the U.S. Army.

Jeeps of this design are now serving *all* the United Nations well, and rendering versatile and valuable service on every front.

Although Willys-Overland's facilities were adequate for much greater ¼ ton 4 x 4 reconnaissance truck production the U.S. Government wished to take the precaution of having a second source of supply for this valued vehicle. Willys-Overland, therefore, gladly shared temporarily the manufacture of this vehicle with another motor manufacturer, turning over to them all its blue-prints as approved by the Government, including the plans and specifications for building the famous Willys "Go-Devil" Engine.

Long previous experience in building light-weight, rugged and economical transportation enabled Willys-Overland to make a major contribution to the development of its Jeep finally approved for the U.S. Army. It is our expectation that thrift-minded motorists will demand, as prime requirements in their post-war car, the qualities of stamina and economy that have reached such a high state of development in the Willys-built Jeep.

WILLYS EXPORT CORPORATION, TOLEDO, OHIO, U.S.A.

THE JEEP

WILLYS

MOTOR CARS TRUCKS AND JEEPS

THE AMERICAR

Keeping Them Rolling

Civilian Experts Aid Our Armies

General Motors Sends Its Men Far Afield

By ARTHUR D. ELLWOOD

Hundreds of thousands of vehicles of all types have gone from Canada's factories to fighting fronts around the world. To help keep these vehicles operating, to learn promptly where they can be improved, to help train the men who operate them, General Motors of Canada has sent men to England, India, Egypt and some other countries. Their work overseas has been dangerous occasionally; sometimes difficult; seldom boring. From their reports home, the scope and nature of their work is here outlined.

Back in Oct., 1942, a trip to Cairo was a journey to a battle zone. The battle of El Alamein was still to come. Only a few weeks before Rommel's Army had been driving towards the Egyptian delta.

But this was a journey which three men from Oshawa, specialists in the technical aspects of General Motors products and in stocking and accounting for repair parts, undertook.

They were a part of the growing army of civilian experts overseas who are helping the armed forces, doing a particularly useful job in teaching maintenance and repair techniques and forwarding effective, prompt reports to their home offices on the job their products are doing.

They did not undertake this journey lightly. It was a suggestion from the Canadian Military and Munitions and Supply authorities at Ottawa. Canadian-made vehicles were on most of the battlefronts of the war. Particularly they had been a vital help in the various offensives and retreats back and forth across the Libyan desert which were to end in complete conquest of all Africa.

But desert work is tough work; a work that develops trouble which a manufacturer in Oshawa could not anticipate but which calls urgently for an immediate remedy.

Thus Jack Leigh, Eric Thompson and G. W. Jarvis left Oshawa in Oct., 1942, and arrived in Cairo 14 days later on Oct. 21.

They were not the first of the group of General Motors men who have gone from Canada to help keep operating the equipment their fellow-workers in Canadian General Motors plants are making. They had been preceded a few months by Norm Daniel who led a group to England. They were followed by H. M. Black, W. E. Mitchell and W. E. Waffle, who have been in India since early this summer.

As Norm Daniel sees it his job was a three-way one.

First of all he was to assist the Canadian Army and army schools in maintenance and repair of vehicles, an important proportion of which came from his home plant in Oshawa.

So many changes were dictated by experience in the field that Army men trained in early models had to be brought up to date. This calls for refresher courses. There was, moreover, the everbroadening need for mechanical training and, as the Canadian Army in Britain was an overseas force, the supply problem was one entirely different from that of an army operating in its home country.

Then Daniel and his group were expected to assist the British Army; to train it in the use of Canadian vehicles which differ from the British. At that time Britain was sending many thousands of reinforcements to Africa where Canadian-made vehicles probably made up at least half of the total used by Montgomery's Eighth Army. Men going to Egypt were trained in the United Kingdom first; trained in the use of Canadian maintenance methods and tools. The single-purpose tool, accepted as a matter of course in Canadian automotive practice, was not well-known in the United Kingdom. Canadians had to provide these tools and show the British Army how to use them.

There was perhaps a third function of the school in England which Mr. Daniel set up. This was to set up a proper parts organization, using those sections of ordinary commercial practice which prove good for Army use.

Become Teachers

They had to train instructors in special short courses. They could not hope to cover all the actual mechanics but by working with instructors they could spread the benefits of their experience widely. From British Army authorities and from other sources, Norm Daniel has a clear evidence that the plan works.

The men sent around the world on this job were ordinary men to be found in any large automobile company. Most of them had spent a large part of their working lives at Oshawa or at other General Motors plants.

But not all of them had this background. Dell Bodkin, in the group going to England, used to be with a leading Toronto General Motors dealer. W. E. Mitchell, now in India, was service manager for a Western Canadian automobile dealer.

Take Training Courses

As a main function of their overseas job was to be in teaching men how to teach, they had to learn it first themselves. Like other automobile companies in Canada, General Motors runs an army training course at its Oshawa plant. These men of the overseas division all took the army training course, then acted as instructors to learn how to teach themselves. Parts men have to learn packaging, shipping, handling of parts. On the average each man received three months' special training, including periods in various plants outside of Oshawa.

Going to Egypt, passports were validated for 24 countries—all the British possessions in the area—in order to cover all possible modes of exit, a matter of considerable personal interest to these men in October of last year.

They were given injections to immunize against seven dread diseases —cholera, smallpox, typhus, typhoid, paratyphoid, tetanus, bubonic plague and yellow fever.

Speed Up Reports

In the field their job was twofold. On the one hand they had with them men who knew about all there was to know about handling spare parts, about seeing that they were where they would be needed when they were needed, and that they could be located promptly.

By working directly between Cairo and Oshawa, the group in Egypt was able to speed up location of parts and service information. They found that experienced men right on the job can offer advice or suggestions. As men familiar with the company's own requirements in reports, they can speed up the required action when some difficulty is discovered. They use army communications by way of London and Ottawa but cut out red tape.

Perhaps it is no surprise to know that not everything has turned out as they might have expected. Jack Leigh and Eric Thompson, General Motors servicemen in Egypt, complain of sand in their shaving kits and the high cost of living. They mention that the only thing not expensive in Egypt is roses—and one cannot live on roses.

Unexpected Traveller

They were present on that surprising occasion when a packing case from Detroit, supposedly containing only a Diesel engine, was found also to contain a mother cat with her four kittens when it was opened in North Africa. Sealed in water-tight containers when it left the Detroit factory, the mystery was how the cat and her kittens managed to survive this long journey. Amazed servicemen found that the grease used as a rust-preventative on the engine was completely licked away, apparently providing sufficient sustenance for the cat and the family which arrived en route.

Reports to their head offices from Leigh and Thompson, subject to strict army censorship as they are, are strangely devoid of the details of their personal adventures. They write in a matter of fact way, sticking closely to their subject.

"We had the opportunity to spend a considerable time with forward area workshop officials, who took profitable advantage of the product information we carried with us. Lack of manuals and technical information was evident at the forward workshops. We have arranged to have these dispatched immediately," read one report.

"The parts situation, although improving on our jobs, is still the major problem, as a great deal of time is lost through having to make gaskets, etc., by hand, and quite a number of all types of vehicles are tied up for parts that cannot be made locally," reads another report illustrative of the importance of spare parts in desert warfare.

Sand in Machinery

Sand, the arch enemy of machinery in the desert, is not overlooked. "Excessive wear is very evident on all moving parts in speedometer heads, and is undoubtedly caused by sand entering the unit."

Or again, speaking of their study of German vehicles and repair methods:

"We picked up a few German manuals. If these would be of any value to you, advise us, and we will arrange to send them over."

"It is our intention to examine more of these vehicles in the near future, and will endeavor to give you more detailed information. A severe sandstorm which was existing at the time of this visit prevented us continuing our investigation."

From a report on the examination of German trucks:

"The gas tank filler neck is twice the size of ours, and we have been advised by friends that this is of great assistance when refilling a tank from small cans in the field. These tanks are enamel-plated on the inside to prevent rusting."

Journey to Tripoli

Jack Leigh reports on a 1,500-mile trip to Tripoli which took approximately two weeks in February this year:

"We have just returned from Tripoli, to where we accompanied the first of our light reconnaissance vehicles which will be put into service.

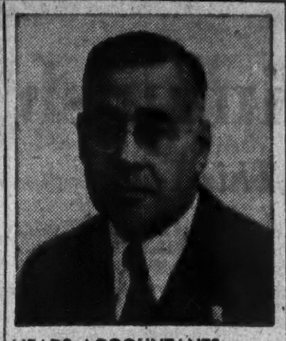
"This trip was made with two purposes in mind. First, to get a first-hand account of performance and any defects which might develop in 1,500 miles of desert driving. Secondly to have an opportunity of checking on defects at advanced workshops, where running repairs are done on all types of equipment.

"A great deal of the road was very rough and full of pot-holes. The cars were not favored in any way, and we completed the journey without breaking any spring leaves even in the jobs with the original 10-leaf spring."

This, in brief, is the work of the overseas services division of the General Motors Co. of Canada. Within the dry references to sandstorms and to roads which were "very rough and full of potholes," lies much of the reason for their presence in these areas.

It has been said that at least one of Wavell's early offensives against the Italian and German armies in Libya failed because his motor vehicle transport failed. Through no fault of the manufacturers, desert conditions and army demands proved too much. It was to overcome the chances of such further failure and to make sure that where failures did occur they could be repaired from parts on hand and readily available that this group of General Motors men went overseas to assist the British and Canadian armies. When some difficulty is discovered, these men can report it rapidly, accurately and completely and in language which the service or production manager back home can at once apply to his own work. It does not call for any translation of military terms into ordinary Canadian production language.

These men overseas invariably pay high tribute to the way in which army officers and men carry on their job under conditions of great difficulty. They are assisting, not supplanting, the army organization set up to do the job.



HEADS ACCOUNTANTS

Henry G. Norman, new president of the Dominion Association of Chartered Accountants. Londonborn, Mr. Norman came to Canada in 1911 and qualified as a chartered accountant at Edmonton. During the last war he saw service with the Canadian Machine Gun Corps, afterwards going to Philadelphia, where he practised accountancy with Price, Waterhouse & Co. Since 1931 he has been with that firm's Montreal office. In 1939 he was retained in an advisory capacity to the Minister of National Defence and in 1940 was appointed financial advisor to the British Commonwealth Air Training Plan. Named to assist him as vice-presidents in association duties during the coming year were F. Johnson of Winnipeg and C. F. Elderkin, Montreal.

Let's Face the Facts!

CANADA'S farmers have done their part—and done it nobly. With far too little help, they have sown extra land and brought it to produce more food than ever before. More food for our Armed Forces—more food for our Allies—more food for ourselves.

Yet in the midst of all this plenty, Canada faces a food crisis. Food in the fields is not food on your table—is not food in your son's mess-kit somewhere in Europe or on the high seas. The food in the fields must be harvested and then processed in the food factories, and there aren't enough people to do this job. THE SITUATION IS DESPERATE!

There is only one answer! YOU STOREKEEPERS, PROFESSIONAL MEN, RETIRED FOLK, INDUSTRIAL WORKERS, HOUSEWIVES AND YOUNG MEN AND WOMEN AT HOME—set aside your evening hours, half a day, a whole day, a week or more, to help harvest and process the food we'll need this winter!

THESE QUESTIONS AND ANSWERS MAY HELP YOU DECIDE:

Q. What work will be required of me?
A. Picking vegetables and tomatoes, digging potatoes, hoeing, haying and harvesting.

Q. Will I be paid?
A. Yes, at a rate that you can work out with the farmer with whom you work. A set wage is not in force and you may have had previous experience which makes you more valuable than a beginner.

Q. How many hours will I have to work?
A. As many as possible. A whole day is best, or a week. But even afternoons and evenings will help considerably.

Q. How will I get out to the job?
A. If possible, get a group of four or five to go together and alternate cars each evening. Cases will vary, but it will be part of your job to arrange your own transportation to suit your need.

Q. To whom should I apply to offer my services?
A. Read this:

THIS IS WHAT YOU SHOULD DO! ACT NOW!

1. Consult any special local committee or office established to deal with farm labour placements in your city or town; or
2. Write your Provincial Director of Farm Labour at the Capital of your province; or
3. Get in touch with your nearest Employment and Selective Service Office.

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LIMITED

Beattie Not Likely To Mill This Year

It is improbable that milling operations at Beattie Gold Mines (Quebec) will be resumed before the end of 1943, shareholders are informed in the company's quarterly report. As noted previously, a rock slide in the glory hole sealed off the company's main shaft and forced suspension of milling earlier this summer.

Work of rehabilitation and clearing the mine of clay is now under way, it is stated. Sinking of a new shaft on the former Donchester claims has also been commenced. Development is being undertaken of the new ore body found last year which is expected to be of major importance in improving mill grade when milling is again in progress.

Operating profits for the quarter ended June 30, 1943, amounted to $113,870 compared with $168,650 for the corresponding quarter of 1942.

Privateer Mine, which is to close down shortly, recovered $56,495 from milling of 1,113 tons of ore during July.

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Mine Assistance

Aid to Mining May Diminish

Many Minerals in Production — Finds Few This Year

By GORDON M. GRANT

With most strategic mineral and metal bottlenecks already broken and the United Nations' shipping situation much easier, indications are that Dominion and U. S. government financing of war metal projects is not likely to be so extensive from now on.

If a worth-while strategic mineral or war metal deposit is discovered, it still could probably be financed by government aid. But if the find is sufficiently attractive to secure government money, it would probably be sufficiently attractive now to secure financing by private industry.

There are a number of reasons why financing of new strategic producers is not likely to be so great—why both governments and private industry may tend to restrict their activities in this field.

Briefly, they are:

1. Canada's search for strategic minerals has already been attended by considerable success—we have already turned up practically all the main strategic mineral items with the probable exceptions of tin, vanadium and aluminum (as high grade ore deposits). Self-sufficiency has either been established or will be shortly for most minerals, while the easier shipping situation is aiding the Dominion in securing others. The over-all need for further strategic mineral mines has thus been lessened.

2. With prospecting turning in very few further strategic mineral finds of importance this summer, the number of further projects warranting financing — even as war projects—is small.

3. Increasing the output of some minerals such as copper and zinc can be accomplished easier by making more men available for existing mines than by endeavoring to open up new ones.

Prospecting on Limited Scale

Success attending the strategic mineral hunt has been rather remarkable considering the limited number of men actually at work in the field. Despite the paucity of actual prospectors, important finds have been made in mica, molybdenum, mercury and tungsten. Fewer men have been prospecting in 1943 than in 1942, it is indicated. One mining engineer, whose work keeps him closely in touch with the activities of prospectors, says that he doubts if there have been more than 25 really first class, competent prospectors in the field this year.

The dearth of new finds is seen as a direct result of this situation. It is perhaps not so surprising after all that no major new base metal mine has been uncovered in Canada since the outbreak of war.

Long Term Aspect Important

Making a larger number of men available for existing base metal producers looks like an easier way to increase base metal supply than to proceed with the opening of new mines, The Financial Post is told.

While output could undoubtedly be increased in this way, however, mining men think that to concentrate all efforts on existing mines may mean depletion of their ore reserves at a relatively early date. If this should prove to be a long war, it might be advisable to proceed with the opening up of further base metal mines to avoid a metals shortage perhaps five years hence, it is suggested. New deposits would be required for this.

Crisis Seen Ahead

Many mining men believe they can see the "handwriting on the wall" for base metal mining if a marked revival of prospecting does not take place at an early date. Without such a revival the base metal mining situation could become really serious in a decade, it is pointed out.

After a period of say 20 years, it is possible that even some of our best mines, Inco, Smelters, Noranda and Hudson Bay, might be faced with the problem of gradual depletion of ore resources—if the problem had not reached the acute stage before that. To open, fully equip and develop new mines of a calibre to replace big base metal mines such as these undoubtedly would require considerable time — five years would probably be a minimum.

But before any such mines could be opened up they would have to be found. Very active prospecting for 10 years might be necessary if Canada is to maintain her position in metal production 20 years hence, it has been estimated.

There appears to be agreement in mining circles that prospecting must be much more extensive in the future than in the past if ore body losses are to be made good. Many lean to the opinion that the government will have to take definite action to make prospecting more attractive.

It is pointed out that most of the deposits which project through to surface have now been discovered and that a much larger amount of work will have to be done in the future for each new discovery made. Science is seen providing great assistance in the mineral search but is not regarded as a cure-all for the ills of the prospecting profession. In the past, it is stated that practical and scientific prospecting have been usually carried on independently — and that a changed technique may be a prerequisite to further success in the business of prospecting.

Ability to secure a greater production of many strategic minerals by simply providing existing mines with more men combines with a poor 1943 harvest of new mineral prospects to make it unlikely that government-financing of new mining enterprises will be on as extensive a scale this coming year as it has been in the year past. The lack of new prospects is seen pointing once again to the low ebb reached by prospecting — and to the need for more active prospecting now if a minerals shortage 15 or 20 years hence is to be avoided.

East Malartic Profit Shrinks

New Stoping Method Expected to Aid in Working Out Mine Problems

From Our Own Correspondent

MALARTIC. — Gradual contraction of milling rate to a level of under 1,000 tons daily has meant reduced production and profits for East Malartic Mines and net profit after all charges for the first six months was only in the neighborhood of $86,000, The Financial Post is informed. This situation, and the increased reliance which has become necessary on relatively unskilled labor, has deferred the day when it will be possible to really work out the company's problems.

As far as ore lengths and known tonnages are concerned, there has been no problem at East Malartic Mines. But getting that ore out has been immensely complicated by the unreliable and treacherous character of ore structures and of the schisted footwall which has made standard stoping methods impractical.

Recent studies by the company's engineering staff and outside engineers, however, have devised a stoping method that is believed to offer a logical and sound solution of the problem presented.

Development work this year has been centred in opening up the east ore bodies at the upper horizons and the main ore bodies on the lower levels. The east ore bodies have been opened up by drift development on the 2nd, 3rd. and 4th levels at 335, 485 and 670 ft. The ore body occurs 1,200 ft. east of the main shaft at the 2nd level, raking to the east with depth. Ore exposures on the three levels are:

Level:	Length ft.	Average width ft.	Grade oz.	Tons to ft.
2nd	727	18.9	0.233	1,144
3rd	845	19.4	0.222	1,366
4th	175	14.5	0.166	
4th	325	21.3	0.232	1,221
4th	200	26.0	0.192	

Low breaking costs with reasonable control over dilution are hoped for in the east ore section. Ore from stopes on the second level should be available for milling in September. Consideration is being given to opening up the east ore bodies on the 970 and 1,270-ft. levels.

Marked continuity of ore to depth has been noted with widths varying from 10 to 70 ft. and with lateral ore extensions exceeding 1,200 ft. Ore exposures on the present bottom level have been as follows:

Ore Body:	Length ft.	Average width ft.	Grade oz.	Tons per ft.
Fault zone	70	7.5	0.274	48
West	220	12.0	0.186	220
Main	1,230	26.6	0.248	2,725
East "A"	330	9.3	0.196	256
				3,249

GoldenManitou Makes Profit

Expect 25 Cents a Share This Year Before Allowance For Write-offs

A profit of $282,709 equal to 9.4c a share before write-offs but after interest charges, was realized by Golden Manitou Mines in the six months ended June 30, 1943, President Harry W. Knight, reports in a letter to shareholders.

On the basis of this level of earnings and the current rate of production Mr. Knight reports that bank loans should be reduced monthly from September forward and paid in full early in 1943, after which consideration will be given to retirement of outstanding bonds.

See Gain Last Half

With present output, Mr. Knight anticipates the operating profit in the last six months, after interest charges, should be approximately 16 cents per share, making a total operating profit of 25 cents a share for the full year. Favorable arrangements are said to have been made as to depreciation write-off, so that taxes for the current year will not be burdensome it is stated.

Full Staff Now

Reviewing current operations, Mr. Knight states in part as follows:

"Milling commenced in August, 1942, and shortly thereafter it was decided to increase the daily capacity, from 600 to 900 tons. This increase became effective in March last, but owing to a shortage of labor and absenteeism, capacity was not reached until last month. We now have a full staff, but are still handicapped from time to time by absentees. Irrespective of these difficulties, we are pleased to advise that average daily production now exceeds the rated capacity of the increased mill facilities.

Shaft Being Deepened

"The shaft is being deepened from the present lowest working level at 510 ft. to 1,000 ft. Stations have been cut and timbered at the 650 and 800-ft. levels and a new low level at 950 ft. should be completed in September. These three new levels should be open for development, and ore made available within the next few months. Diamond drilling has established a continuation of the ore bodies downwards through these workings.

"Due to the demand for zinc, production has been expanded as rapidly as existing labor conditions have permitted. This has resulted in mill production advancing beyond the rated capacity of the mill and normal mine development, but it is expected this situation will be rectified in the development programme referred to above.

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The Week in Oils

From Our Own Correspondent

CALGARY. — Re-opening of long-suspended wells at Tilley, Moose Dome and Dina, and substantially increased output in the Vermilion and Taber fields, boosted July production from Alberta oil sources outside Turner Valley to a record high of more than 24,323 bbl.

While the output is not large, in relation to major field production or war-swollen requirements, it reflects when compared with previous yield from these sources, the expanding efforts to boost production of oil in the province. The July output was more than 10,000 bbl. in excess of the 15,261 bbl. recorded for June, and more than doubled yield in earlier months this year (May 11,212 bbl. April 10,212 bbl.; March 9,937 February 8,273 bbl.; January 8,877 bbl).

Vermilion was responsible for almost half the July output with Taber turning out close to 9,000 bbl.

• • •

Vermilion More Active

Increasingly active in both production and development as a result of establishment of an oil market with the C.N.R. and a field price of $1.25 per bbl. for "clean oil," the Vermilion field produced 8,114 bbl. in July, with an additional 1,884 bbl. of previously produced oil recovered from the sumps raising total credited to July to 9,998 bbl. This compares with 6,092 bbl. credited to June (of which 4,424 bbl. was produced, and 1,668 bbl. recovered from the sumps). May output was only 2,481 bbl.

Five new wells reported initial production in July. Best of these was Holly No. 1, with a July output of 1,199 bbl.—largest of any well in the field. Other new producers were the first four Canar Oils (C.N.R.) wells. Cannar No. 1 produced 656 bbls. in July; Cannar No. 2, 356 bbl.; Cannar No. 3, 480 bbl.; and Cannar No. 4, 51 bbl. None of the new wells was on production the full month. The five new wells produced a total of 2,742 bbl. in July.

Fourteen older wells accounted for the balance of the July yield. The five Vermilion Consolidated wells, produced 2,510 bbl. compared with 1,005 bbl. in June. The July output boosted total Vermilion yield from inception to 115,179 bbl., of which 25,290 bbl. is credited to the first seven months of 1943.

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Tilley Well Produces

Northwest-Tilley No. 2, a Northwest Company test in L.S.D. 4 17-17-12w4, was reopened July 7 after a 10-months' shutdown, and is now pumping steadily. Between July 7 and 31, the well showed a net oil recovery of 1,821 bbl. Gross output was about twice this figure, with yield about 50% water and 50% oil.

Production is from the Sunburst sand, between 3,170 and 3,180 ft. Gravity is around 27 deg. API. The oil brings $1.06 per bbl. at the well-head. This well was completed in March, 1942, and produced 5,718 bbl. before closing October, 1942.

The Dina Nos. 1 and 4 wells, shallow Central Plains wells which suspended production in August, 1942, resumed pumping in July, each adding 50 bbl. by the end of the month. The output boosted Dina No. 1 total to 13,829 bbl. and Dina No. 4 to 8,349 bbl.

• • •

Truck Moose Dome Oil

Moose Oils No. 2, reopened on July 19 after a two-year shutdown, pumped 440 bbl. of 47 gravity oil in spasmodic operation by July 31, and since then has added over 600 bbl. Pumping periods are limited by shortage of storage facilities and trucking facilities.

While on pump, output is as high as 6 bbl. hourly, but it is doubtful whether this could be maintained on steady operation. To date, about 800 bbl. has been trucked to the Imperial refinery at Calgary, trucking cost being 68 cents per bbl. This well is producing from a Devonian limestone zone at 1,532 ft.

Taber, bright though scarcely yet developed new star on the Canadian oil horizon, produced 8,956 bbl. in July, raising total from inception to 97,559 bbl. Since then output has boosted total beyond 100,000 bbl., with about half of this being accounted for in 1943 and some 60% of the total being accounted for by the Taber-Province No. 1 well, Dominion Oil-Nassau Explorations discovery well.

• • •

Anglo Tests Kinsella

The Anglo Canadian Oil Co. has staked its initial drill-test on a one-and-one-half township block in the Kinsella area, on the central Alberta plains. The new well, to be known as Anglo-Kinsella No. 1, will be drilled just over 4 miles southwest of Kinsella; around 20 miles west and north of the General Pete Phillips Kinsella southwest of Kinsella No. 1 well and the Blackleaf test; about 25 miles southeast of the General-Phillips Kinsella Nos. 2 and 3 test; and about 10 miles south of the large "Kinsella gasfield," developed by Northwest Utilities.

• • •

Two New Producers

Two of the four recently completed Imperial Oil Group wells in Turner Valley have now completed acidizing, and have been placed on steady production as excellent producers for their particular sections of the field.

Foothills No. 15, tapping the "east side limestone," a location three-eighths of a mile northwest of the discovery east side producer (Major No. 9), showed a very heavy flush flow following a series of light acid treatments, and is currently operating under heavy back pressure at some 21 bbl. hourly, less than a quarter of the post-acid flush rate of flow. In the opinion of the Imperial officials, the well may rate an allowable of upward of 600 bbl. per day. This would place the well among the top 10 oil producers in the field.

Royalite No. 67, key test of the relatively undeveloped northerly part of the central west flank, showed a flush rate of some 30 bbl. hourly following a series of light acid treatments. It has now been pinched back and is operating under back pressure at 15 bbl. hourly. Imperial officials expect this well to rate an allowable of around 360 bbl. per day. Nearest producers are Anglo-Phillips No. 2, half a mile to the southwest and Royalite-Lowery No. 1.

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